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# Consumers' Research

BULLETIN

OCTOBER • 1954

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# Consumers' Research Bulletin

## OFF THE EDITOR'S CHEST

**C**ONSUMERS will pay more for their watches this year if they buy Swiss-made watches or watches with Swiss movements. Tariff increases on certain imported watches and watch movements went into effect on July 28, 1954, by presidential order. The basis for the decision to increase the tariff was the report of the U. S. Tariff Commission that watches were being imported in such quantities as to cause serious injury to the American watch manufacturing industry and that an active jeweled watch industry with a nucleus of skilled workers must be available to produce fuses and other small, intricate timing devices in the event of war.

There are, according to one analysis, three areas of watch production: jeweled watches priced over \$60; jeweled watches selling from \$15 to \$60; and pin lever (lowest grade) watches selling under \$15. Manufacturers and distributors of watches in the medium price range, \$15 to \$60, face the most serious competition from Swiss makers.

Swiss watch movements have been selling for half the price of American-made movements. The increase in tariff will increase the retail price by an estimated \$3 to \$10 per watch. Just what effect it will have on sales is difficult to judge, but one trade group believes that people will go right on buying Swiss watches because they like them, although marginal watch importers may be affected adversely.

There has been some skepticism as to the validity of the argument that it is important to protect the jobs of precision workers in the watch industry in order to have their skills available for the production of national defense items. The criticism has also been made that the only facts the Tariff Commission can properly consider are those concerned with injury to a particular industry and that considerations of national defense are beyond the statutory purview of the Commission. It has also been noted that there are a number of manufacturing concerns other than watch companies using highly skilled workmen which are able to supply the necessary technicians for making intricate devices such as the mechanical time fuses. The argument is held to be pretty much a propaganda device for the high tariff lobby to confuse the issue.

What really worries the advocates of liberal foreign trade regulations is that the door is now open to a

(Continued on page 13)



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Consumers' Research functions to provide unbiased information on goods bought by ultimate consumers. For their benefit (not for business or industry) and solely with the funds they provide, CR carries on tests and research on a wide variety of goods, materials, and appliances, and publishes the findings in CR Bulletin. Consumers' Research is a non-profit institution, and is organized and operates as a scientific, technical, and educational organization.

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It will be advantageous if you will, whenever possible, send prompt notice of change of address at least 5 weeks before it is to take effect, accompanying your notice with statement of your old address with name in full. At least a month's notice must be given in any case. This rule, however, regarding long advance notice does not apply to military personnel. \*CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.

For a convenient cumulative index of the 1954 CR BULLETINS preceding this issue, see page 30.

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## The Consumers' Observation Post

NEW AUTOMOBILES CAN BE PURCHASED at a considerable saving if delivery is taken at the factory in Detroit. Manufacturers of nearly all makes of cars, according to The Wall Street Journal, now permit customers to arrange with their home-town dealers to pick up their new purchases at the factory and save over \$300 by getting the car right off the assembly line. The paper cites the example of a Californian buying a Buick who must pay anywhere from \$329 to \$372 in freight charges, depending on the model he selects. The amount saved by consumers from distant points is enough to pay for plane or train transportation to Detroit, and sometimes the whole family goes along for a holiday trip as they drive their new car back home. Some manufacturers, however, limit factory deliveries to customers from certain sections of the country owing to lack of facilities in the factory delivery offices at Detroit. Arrangements should be fully cleared with the local dealer before making the trip.

\* \* \*

IMITATION ICE CREAM MADE FROM VEGETABLE OILS is making its appearance in a number of sections of the country usually under some fancy name such as "Mellorine." It sells for half the price of good ice cream and may undermine the market for real ice cream just as margarine has cut heavily into the sales of butter.

\* \* \*

WOODEN TOYS FOR THE SANDBOX will last longer than those of metal or plastic. According to a release from the Delaware Agricultural Extension Service, metal toys are likely to rust and wheels may clog with sand so that they do not function. Plastic toys and tools get broken, and their jagged edges can be almost as dangerous as broken glass. Wooden toys, on the other hand, may be scratched but this affects only their appearance and does not impair their usefulness. Wooden butter paddles and wooden basting spoons are considered good equipment for digging.

\* \* \*

OBESITY IS SOMETIMES A PROBLEM that requires psychiatric treatment, or at any rate, psychiatric analysis of the causes of overeating. In an excellent article published in the Journal of the American Medical Association, Dr. Henry W. Brosin of Pittsburgh points out that overeating is sometimes a meaningful process to attain a goal such as relief from emotional tensions. He notes, for example, that many well adjusted persons know that they can improve their mood with an attractive meal and many obese persons have discovered that food acts as a sedative when they are anxious, downhearted, angry, disappointed, or blocked on a project. For those who wish to or need to reduce, he suggests substituting activities such as reading, TV or movies, sports, hunting, and automobile driving for securing acceptable satisfactions.

\* \* \*

SERIOUS MUSIC LOVERS have been forced to turn to records because of the poor quality of radio programs. One CR subscriber complains that one of the most deplorable results of the advent of TV is the loss of nearly all high quality musical programs on the radio, which have been supplanted by soap opera, crime melodramas, and "disk jockey" programs. He notes that he has never yet heard a TV set that sounded even like "middle fi," if there is such a term, to say nothing of high-fi. He has never yet heard a TV receiver that approached the acoustical range of a good high-fidelity phonograph. Perhaps some enterprising advertiser will rediscover radio one of these days and put on quality programs of serious and light classical music.

HOME FREEZER SELLING PRACTICES have been under scrutiny in many sections of the country. Recently tactics in upstate New York which were victimizing consumers were the subject of investigation by a county district attorney who indicated that he would seek state legislation to curb what a grand jury charged was a "multi-million [dollar] home freezer sales racket." The practices objected to included tie-in sales of freezers and meat and misleading claims that meat was sold at savings sufficient to pay for the freezer. There were a number of complaints presented to a grand jury of short weights of delivered meat and high pressuring of buyers into signing blank contracts and promissory notes. Some salesmen are also reported to be trying improperly to collect down payments and promising that freezer customers could always buy groceries as well as meats at wholesale prices. Consumers will be well advised to purchase their freezers on the basis of efficiency and economy in performance and make separate arrangements with a reputable butcher or locker plant for the particular cuts of meat they wish to buy and store.

\* \* \*

FLUORIDATED DRINKING WATER is now for sale in bottles in San Diego, Calif., where municipal fluoridation was voted out in June 1954. The company in the city delivering bottled water treated with fluorine in one and five gallon bottles reported that it had experienced no sharp increase in the demand for fluoridated water. It would appear that the propaganda for fluoridated water, at least in that particular section, has not been sufficiently persuasive to induce people to spend their own money to obtain the alleged advantages of fluoridation of water for their children.

\* \* \*

SCIENTISTS who are familiar with the high quality microscopes put out under the name of Carl Zeiss in pre-war days may be interested in an explanation of how to identify the current output. According to Photo Dealer, the Carl Zeiss plant at Jena was seized without compensation by Soviet Russia after World War II. Members of the company and the Carl Zeiss Foundation, together with a number of scientists and technicians on the staff, started a new factory in Oberkochen in the Western Zone of Germany that puts out products under the name Zeiss Opton. In October 1953, the name Carl Zeiss replaced Zeiss Opton. All products currently imported by Carl Zeiss, Inc., of New York City, are from the U.S. (West) Zone of Germany. Zeiss cameras are manufactured by Zeiss Ikon at Stuttgart (West Germany).

\* \* \*

CONTROL OF TERMITES is a problem for the experts. Elimination of this pest is a difficult problem that requires considerable skill and technique. It is nothing that should be attempted on a "do-it-yourself" basis, or by employment of persons or companies of questionable skill or uncertain background. In certain sections of the country there have appeared small advertisements that resemble news items, extolling the virtues of "a new crystal product ... that does the trick ... the termites ... smell it and stay away for years." The National Pest Control Association reported to its members that, at a cost of \$3.98, an order for this product was placed by mail. Six ounces of paradichlorobenzene moth crystals were received. This is a high price for a common moth-control product that is of no value for eliminating termites.

\* \* \*

FABRICS INTENDED FOR USE AS WEARING APPAREL are now subject to the regulations of the flammable fabrics act which requires that all such materials be properly treated. Drapery fabrics, however, are not subject to the act and consumers are advised not to buy such materials for use in clothing. It has been reported that women have purchased drapery fabrics for skirts. In such cases, the stores selling drapery materials are probably not liable for any damages to the wearer of such garments so long as they note on the sales check that the fabric should not be used in apparel.

(The continuation of this section is on page 33)





Photo by Werner Wolff of Black Star

*The mattress-testing machine used by Consumers' Research.*

## Mattresses

### CR Tests 17 Innerspring Mattresses for Durability

**W**HEN you buy a mattress, you are trying to buy comfort for sleeping. There was a time when softness in a mattress was thought to provide the greatest comfort, and a luxurious, soft innerspring unit was the mattress of the day. More recently, with one of those swings of the pendulum that occur in so many matters affecting consumers, the trend has been toward firm or even extra-firm bedding.

Not all mattress manufacturers, however, have been content merely to sell mattresses that are firm, and claims for "orthopedic" mattresses have become increasingly common in advertising to give a little extra appeal. Regardless of how impressive the word sounds, the use of the term "orthopedic" in connection with mattress selling is simply a sales method capitalizing on the good name of a medical specialty. An orthopedic surgeon points out to CR that borrowing the

implications of the word, orthopedic, is carried to ridiculous extremes in advertising. The word, of Greek origin, originally meant the correction of deformities in children. (Now it refers to deformities in either children or adults.) The shoe people have picked it up, confused it with the Latin word referring to foot, and have produced some strange combinations. In the mattress line, a name combining "-pedic" is meaningless, since properly "-pedic" would refer to child or to feet, and in either sense the brand name will probably not imply what the advertiser intended.

Don't be overenthusiastic about drawing conclusions from a tag or an advertisement stating that a mattress is advertised in American Medical Association publications. That notation means exactly what it says, neither more nor less; it does not mean that the product has the American Medical Association's approval or en-

dorsement or that it is a mattress of fine quality.

Medical men do recommend that when a person is sleeping his back should be supported in as nearly normal and straight a position as possible. During sleep, particularly during deep sleep, an orthopedic specialist notes, most muscles of the body, even the so-called postural muscles, are in a state of reduced or absent tone and therefore any abnormal position or abnormal stretch of the joints is apt to result in subsequent aching of those joints. A bed which sags produces an abnormal stretch of the supporting ligaments of the spine and abnormal stretch of the long paraspinal muscles, which usually results in backache even though the back is perfectly normal. Further, most sleepers change positions several times during the night, and the effort to roll over or change position in a soft, sagging mattress results in considerably more expenditure of energy than is necessary when a firm well-supported mattress is used.

If you have a backache or any sort of trouble with your back, you should consult a physician qualified in orthopedics if a special mattress seems to be required. Do not permit sales people to prescribe for you. So-called "orthopedic" mattresses offered indiscriminately to the general public cannot be relied on as suitable for any particular disorder, condition, or discomfort.

To give best service, a mattress should be well supported on the bed, and some physicians advise their patients to put a bedboard between

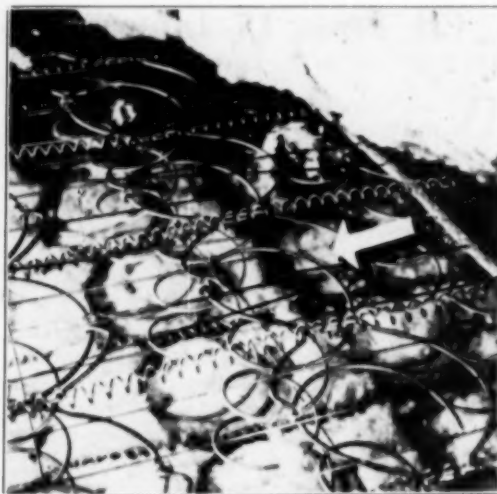
the spring and the mattress for extra rigidity. In some sections of the country, it is reported, there is a trend toward sleeping in a bed without springs, with a board placed directly in the bed frame to support the mattress.

One of CR's medical consultants has noted that there would seem to be little point to putting a spring under a mattress to increase the amount of "give" that a bed affords, and that for some people a good mattress on a firm board would make a satisfactory bed. Here again, however, no general rule can apply, and the consumer should be guided by the advice of his physician if special bedding is required.

### Solid and foam-rubber mattresses

Innerspring mattresses are the ones most commonly sold nowadays, but not everyone wants an innerspring mattress. Solid mattresses made of felted cotton are less expensive than innerspring ones, but they become firmly packed and hard in time, and may become lumpy and uncomfortable. Hair mattresses are difficult to obtain and are expensive. Hair from horses' manes and tails is long, strong, and resilient, and of a desirable type for mattress making. Hogs' hair, however, is short, has less resilience and a greater tendency to become lumpy than does horsehair.

Most people find foam-rubber mattresses comfortable. They are expensive, however, and unfortunately have not been used in quantity long enough for anyone to have dependable informa-



Illustrations of two typical failures of mattresses tested by CR. In the mattress shown at the left, several of the helical wires which held the main coils in position have broken. In the mattress at the right, several wires of the so-called wire "insulator" mat which covers the coils have broken.

tion about their durability. In a wear test made by CR a number of years ago, a foam-rubber mattress held up very well. Failure will come in time from "perishing" of the foam rubber; however, good care will prolong its useful life.

There are many grades and types of rubber mattresses. Some, it is reported, are made of rubber that has failed quality tests. The rubber slabs are marked seconds, but they are covered with ticking, and the marking cannot be seen by the consumer. In one instance a mattress containing 99 percent cotton and 1 percent rubber flakes was sold with a label carrying "foam rubber" in bold red type with the word "flakes" printed in small black script beneath it.

### Innerspring mattresses

For its current study CR bought only mattresses of innerspring construction. Included in the group of 17 tested were a number for which special claims for firmness or extra support were made. In general, the special mattresses differed from the conventional mattresses of the same make in having coils made of heavier wire, which made the springs stiffer. Sometimes they had the same number of springs as mattresses of the same brand made of the lighter wire, sometimes they had fewer springs.

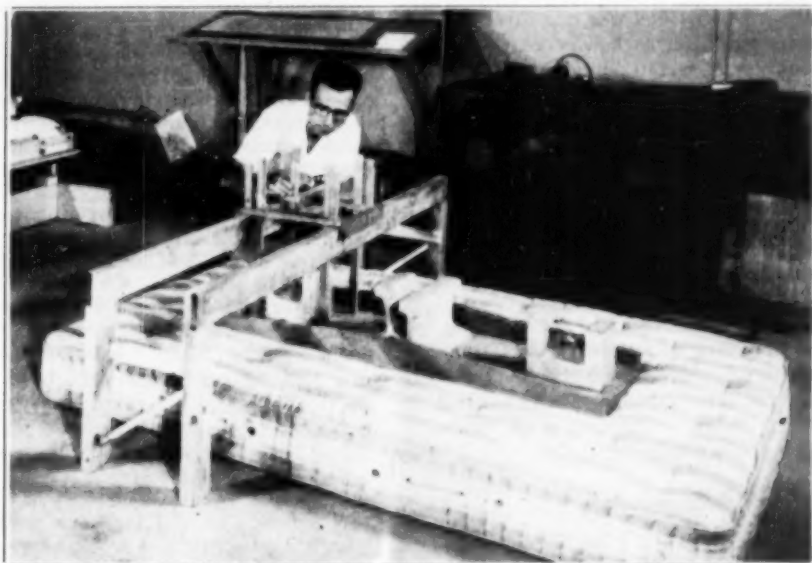
All of the special mattresses were more firm than regular innerspring mattresses of the same make. This added rigidity may pose a problem for a woman who uses fitted bottom sheets by

making it difficult to lift or bend the corner of the mattress in order to put the sheet on. One of the mattresses, *Spring Air Back Supporter*, had an innerspring with a hinged corner to make the job easier. "Custom" fitted sheets, with one corner open and having tie strings, are made by Pacific Mills for "orthopedic" mattresses.

In CR's study, the mattresses were given a critical examination to determine the construction of the spring unit, the kind of padding and the method used for holding the padding materials in place, the construction of the sides, and the suitability of the handles and ventilators. The ticking materials were examined and subjected to bursting strength tests to determine their general quality level.

All innerspring mattresses have coil springs between layers of padding. The springs are enclosed in individual cloth pockets, or are fastened together by wires, clips, or other springs. The padding may be sisal, cotton, hair, rubber, or a combination of these. Special padding, extra wire or metal bands, and sometimes springs are used to make the sides firm and keep them from sagging. All the mattresses tested had ventilation openings of some kind to permit free access of air to the interior of the mattress. All of them also had handles to permit easy turning of the mattress, an important convenience, since improper handling of a mattress when it is turned can shorten its life.

Tests and experience have shown that a good



Checking a mattress for softness.

innerspring mattress will remain firm and flat for a long time, but unfortunately it is impossible for a consumer to judge the durability of a mattress from its external appearance or the few details of its construction that he can see. Durability tests at CR were carried out on a mattress testing machine which subjected the mattress to the action of a 285-pound roller which moved across the mattress from side to side, causing the springs to compress and expand repeatedly. The mattresses were examined periodically for signs of failure and the test continued until each mattress failed in some manner or until it had received 140,000 single passes of the roller. Mention is made in the listings of broken coil springs and tie wires found in the innerspring unit.

In rating the mattresses the results of the wear test were given the greatest weight. Accelerated wear tests are necessary, of course, in order that data on relative performance of items tested shall become available in a reasonable time, so as to be of use to the consumer. It must be borne in mind, however, that the kinds of failure produced do not necessarily reflect closely the failures that would occur in actual service in any given home. Accelerated wear tests, however, provide useful indication of probable relative life of the various makes or brands tested.

Loss of the ability of the mattress to return to its original thickness in the rolled area after the wear test is given in the listings as the "compressive set" of the rolled area.

The mattresses were measured to compare their relative softness. This was done by measuring the thickness after each was compressed by the application of a 180-pound weight distributed over an area of about 5½ square feet (the approximate projected area of an actual person). "Springiness" was determined from the difference between that measurement and the measurement showing the thickness after the load was removed. A comparison of these data made at the beginning and end of the test was a measure of how much the mattress lost or gained in springiness.

Some of the mattresses retained their springiness better than others, and consumers who consider this property of primary importance will want to take this into consideration in making their selection. When no comment is made, change in springiness was not great.

#### A. Recommended

**Simmons Beautyrest Normal Firm** (Simmons Co., Brunswick Ave. and Allen St., Elizabeth, N.J.) \$69.50. Firm.

**Description:** Innerspring unit had 837 barrel-shaped coils, each enclosed in a fabric pocket sewed in strips, stitched at intervals with cord. Innerspring unit covered with loosely woven cloth and cotton felt. Blue ticking of good quality. Button and tape tufting. Four woven cord handles and 8 pierced metal eyelet ventilators, both desirable features.

**Test results:** Indicated durability of spring unit, very good; was in best condition of all mattresses tested after 140,000 single passes of the test roller. Compressive set of rolled area (failure of the mattress to return to its original thickness), 6%, low and desirable. **AA2**

**Englander Red Line New Posture** (The Englander Co., Inc., Brooklyn 6, N.Y.) \$59.75. Firm.

**Description:** Innerspring unit had 192 hourglass-shaped coils with wire of larger diameter than the coils in the *Englander No. 120*, fastened around the outer edge with helical wires through which ran a heavy wire and with a grid of thin metal strips through the center of the coils. Innerspring unit covered with a coarse net cloth and cotton felt. Rose ticking of good quality. Button-and-cord tufting. Four plastic strap handles and 8 pierced metal ventilators, both desirable features.

**Test results:** Indicated durability of the spring unit, good; mattress slightly bumpy and noisy, had some weak spots after 140,000 single passes of the test roller. Compressive set of rolled area (failure of the mattress to return to its original thickness), 6%, low and desirable. **2**

**Restonic Triple Cushion Orthotonic** (Royal Bedding Co., Chicago 9) \$69.50. Soft.

**Description:** Innerspring unit had 252 hourglass-shaped coils, fastened around the outer edge with helical wires, through which ran a flat steel strip; coils fastened with helical wires throughout. Innerspring unit covered with wire "insulator" mats to support sisal and cotton felt padding. Gray ticking of very good quality. No tufting; spring covering pads are stitched to fabric which is stapled to innerspring unit. Four woven cord handles and 8 pierced metal ventilators, both desirable. The spring unit inside this mattress was dusty, suggesting inadequate inspection during manufacture.

**Test results:** Indicated durability of spring unit, good; wire insulators broken in a few places and the mattress was bumpy and noisy after 140,000 single passes of the test roller. Compressive set of rolled area, 11%, relatively high and undesirable. Loss of springiness during wear test, relatively high (undesirable). **2**

**Sealy, Natural Rest** (Sealy Mattress Co. of N.J., 196 W. Railroad Ave., Paterson, N.J.) \$59.50. Soft.

**Description:** Innerspring unit had 264 hourglass-shaped coils, fastened around the outer edge with helical wires through which ran a heavy wire; coils fastened with helical wires throughout. Innerspring unit covered with wire insulators and cotton felt. Gray and green ticking of good quality. No tufting. Four woven cord handles and 8 plastic ventilators, both desirable.



**Test results:** Indicated durability of spring unit, good, but wire insulators broken in many places after 140,000 single passes with the test roller. Compressive set of rolled area, 15%, relatively high and undesirable. 2

**Serta, Perfect Sleeper** (Made by Serta Associates, HonorBilt Products, Inc., Philadelphia) \$59.50. Soft.

**Description:** Innerspring unit had 252 hourglass-shaped coils fastened around the outer edge with helical wire through which ran a flat steel strip; coils fastened with helical wires throughout, and also reinforced by steel strips running from end to end through the top and bottom of each row of coils, except the two outside rows. Innerspring unit covered with sisal and cotton felt. Gray and rose ticking of good quality. No tufting. Four woven cord handles and 8 pierced metal ventilators, both desirable.

**Test results:** Indicated durability of spring unit, good; slightly noisy after 140,000 single passes of the test roller. Compressive set (failure of the mattress to return to its original thickness), 14%, relatively high and undesirable. Loss of springiness during wear test, relatively high (undesirable). 2

**Serta "Sertapedic"** (Made by Serta Associates, HonorBilt Products, Inc.) \$69.50. Soft, though a little more firm than the *Perfect Sleeper*.

**Description:** Innerspring unit had 252 hourglass-shaped coils with wire of larger diameter than the coils in the *Serta, Perfect Sleeper*, fastened around the outer edge with helical wire through which ran a flat steel strip; coils fastened with helical wires throughout, and also reinforced by steel strips running from end to end through the top and bottom of each row of coils, except the two outside rows. Innerspring unit covered with sisal and cotton felt. Gray ticking of very good quality. No tufting. Four woven cord handles and 8 pierced metal ventilators, both desirable.

**Test results:** Indicated durability of spring unit, good; was slightly bumpy after 140,000 single passes of the test roller. Compressive set of rolled area, 13%, relatively high and undesirable. Loss of springiness during wear test, high (undesirable). 2

**Simmons Beautyrest Extra Firm** (Simmons Co.) \$69.50. Firm, about the same as Simmons' *Normal Firm*.

**Description:** Innerspring unit had 837 barrel-shaped coils with wire of larger diameter than the coils in the *Simmons Beautyrest Normal Firm*, each enclosed in a fabric pocket sewed in strips, stitched at intervals with cord. Innerspring unit covered with loosely woven cloth and cotton felt. Blue ticking of good quality. Button and tape tufting. Four woven cord handles and 8 pierced metal ventilators, both desirable.

**Test results:** Indicated durability of spring unit, good; slightly bumpy after 140,000 single passes of the test roller, but slight bumpiness was noticed earlier, after 40,000 single passes. Compressive set of rolled

area, 7%, about average. Loss of springiness during wear test, high (undesirable). 2

**Eclipse Royal Posturguard** (Eclipse Sleep Products, Inc., New York 16) \$79.50. Firm.

**Description:** Innerspring unit had 231 hourglass-shaped coils with wire of a little larger diameter than the coils in the *Eclipse Superest* fastened around the outer edge with helical wires through which ran a heavy wire; coils fastened with helical wires throughout. "Springwall" side construction, 12 "safety pin" type springs in side walls. Innerspring unit covered with wire insulators and hair on burlap. Gray ticking of very good quality. Woven cord tufting, no buttons. Six woven cord handles and 4 rows of eyelet ventilators, both desirable.

**Test results:** Indicated durability of spring unit, good; 5 tuft cords broken and wire insulators broken in many places at end of 140,000 single passes of the test roller, and mattress was slightly noisy. Compressive set of rolled area, 5%, low (desirable). Springiness increased during wear test caused by failure of tuft cords which allowed the top and bottom of the mattress to separate somewhat and so increase the thickness of the mattress. 3

**Sealy Posturepedic** (Sealy Mattress Co. of N.J.) \$79.50. Firm.

**Description:** Innerspring unit had 308 hourglass-shaped coils, fastened around the outer edges with helical wires through which ran a heavy wire; coils fastened with helical wires throughout. Innerspring unit covered with wire insulators and cotton felt. Gray ticking of very good quality. Button and cord tufting. Four woven cord handles and 8 plastic ventilators, both desirable.

**Test results:** Indicated durability of innerspring unit, good, but wire insulators broken in many places and mattress bumpy and slightly noisy after 140,000 single passes of the test roller. Compressive set of rolled area, 6%, low and desirable. Loss of springiness during wear test, high (undesirable). 3

**Spring Air Back Supporter** (Hyde Park Bedding & Mfg. Co., Reading, Pa.) \$79.50. Firm ("less firm" side was little different in firmness from the "firm" side).

**Description:** Innerspring unit had 204 hourglass-shaped coils, alternately left- and right-hand coils adjacent to each other, fastened around the outer edge with helical wires through which ran a heavy wire; coils fastened with helical wires throughout. Button and cord tufting. Innerspring unit covered with burlap, sisal pad and cotton felt on the "less firm" side, and with hair also on the "firm" side. Gray ticking of very good quality. Four woven cord handles and 4 pierced metal ventilators, both desirable. One corner of the spring of this mattress was "hinged" to permit its being lifted for slipping on fitted sheets easily.

**Test results:** Indicated durability of spring unit, good; was bumpy and two tuft cords were broken after 140,000 single passes of the test roller. Compressive set of the rolled area, about the same on both sides—5 to 6%, both low and desirable. 3

## B. Intermediate

**Harmony House** (Sears-Roebuck's Cat. No. 1-7124) \$36.95, plus shipping charges. Moderately soft.

**Description:** Innerspring unit had 312 hourglass-shaped coils, fastened around the outer edge with helical wires; coils fastened with helical wires throughout. Innerspring unit covered with sisal and cotton felt. Black and blue ticking of good quality. Button and woven cord tufting. Four fabric strap handles and 8 pierced metal ventilators, both desirable.

**Test results:** Indicated durability of spring unit, fair; tie springs were broken at 16 places on one side and four places on the other after 140,000 single passes with the test roller. Compressive set of rolled area, 6%, low and desirable. **1**

**Slumber King** (Simmons Co.) \$39.95. Moderately soft.

**Description:** Innerspring unit had 220 hourglass-shaped coils, fastened around the outer edge with helical wires; coils fastened with helical wires throughout. Innerspring unit covered with sisal and cotton felt. Gray and yellow ticking of fair quality. Button and woven cord tufting. Four fabric strap handles and 8 pierced metal ventilators, both desirable.

**Test results:** Indicated durability of spring unit, fair; tie springs broken at 46 places on one side, 27 on the other after 140,000 single passes of the test roller. Compressive set of rolled area, 5%, low and desirable. **1**

**Burton-Dixie Slumberon, No. 402** (Burton-Dixie Corp., Chicago 8) \$59.50. Moderately soft.

**Description:** Innerspring unit had 276 hourglass-shaped coils fastened around the outer edge with helical wires through which ran a heavy wire; coils fastened with helical wires throughout. The top and bottom coils of each spring have a finger-shaped bend in the horizontal plane. Innerspring unit covered with cotton felt and rubber-coated sisal. Gray ticking of good quality. Button and cord tufting. Four woven cord handles and 4 pierced metal ventilators, both desirable.

**Test results:** Indicated durability of spring unit, fair; had 6 broken coils on outside row at one end and was slightly bumpy and slightly noisy after 140,000 single passes of the test roller. Compressive set of rolled area, 6%, low and desirable. **2**

**Eclipse Superest Springwall** (Eclipse Sleep Products, Inc.) \$49.50. Firm, but somewhat softer than the *Posturguard*.

**Description:** Innerspring unit had 264 hourglass-shaped coils, fastened around the outer edge with helical wires through which ran a heavy wire; coils fastened with helical wires throughout. "Spring-wall" side construction, 12 "safety pin" type springs in side walls. Innerspring unit covered with wire insulators, sisal, and cotton felt. Gray ticking of

fair quality. Button and cord tufting. Four woven cord handles and 4 rows of metal eyelet ventilators, both desirable.

**Test results:** Indicated durability of spring unit, good, but wire insulators broken in many places and a few wires protruded through the covering after 100,000 single passes of the test roller. Compressive set of rolled area, 6%, low and desirable. **2**

**Spring Air Health Center Meadowlane** (Hyde Park Bedding & Mfg. Co.) \$59.50. Soft.

**Description:** Innerspring had 234 hourglass-shaped coils, alternately left- and right-hand coils adjacent to each other, fastened at the ends with helical wires through which ran a wire; coils fastened with helical wires throughout. Innerspring unit covered with sisal and cotton felt and burlap in the center section only. Gray ticking of good quality. Button and cord tufting. Four woven cord handles and 4 woven pierced metal ventilators, both desirable.

**Test results:** Indicated durability of innerspring unit, fair; 23 coils were broken after 140,000 single passes of the test roller. Compressive set of rolled area, 8%, more than average. Loss of springiness during wear test, relatively high and undesirable. **2**

## C. Not Recommended

**HonorBilt Sharon** (HonorBilt Products, Inc.) \$31.50. Moderately soft.

**Description:** Innerspring unit had 209 hourglass-shaped coils, fastened around the outer edge with helical wires through which ran a flat steel strip; coils fastened with helical wires throughout. Innerspring unit covered with sisal and cotton felt. Rose and gray ticking of fair quality. Button and cord tufting. Four metal handles and 4 pierced metal ventilators, both desirable.

**Test results:** Indicated durability of spring unit, poor; 44 coil springs broken after 80,000 single passes of the test roller. Compressive set of rolled area, 11%, relatively high and undesirable. Springiness increased during wear test. **1**

**Englander No. 120 cushioned with Airfoam** (The Englander Co., Inc.) \$59.75. Moderately soft.

**Description:** Innerspring unit had 252 hourglass-shaped coils fastened around the outer edge with helical wires through which ran a heavy wire; coils fastened with wire throughout. Innerspring unit covered with sisal and cotton felt, and a pad of Goodyear *Airfoam* foam rubber  $\frac{1}{4}$  in. thick. Blue ticking of good quality. No tufting. Four woven cord handles and 8 pierced metal ventilators, both desirable.

**Test results:** Indicated durability of spring unit, poor; tie wires broken at 170 places on one side and 162 on the other after 112,000 single passes of the test roller. Compressive set of rolled area, 8%, about average. **2**



## Lipsticks

### Performance Test of 10 Brands

**L**IPSTICK in its present form is a comparatively new cosmetic, a complex product of modern chemistry including in its composition a mixture of waxes and oils, dyes and pigments. For decades women have used rouge, powder, and cold cream in one form or another, but to redden the lips some very odd formulas were advocated. One writer on the arts of beauty in 1858 suggested that ruby lips were generally the result and sign of perfect health. She advocated for those who did not enjoy the natural possession of such an attribute, the use of tincture of benzoin, 15 drops of which poured into a glass of water, she suggested, would produce a delightful wash that seemed to have the effect of bringing the blood to the surface. Still an earlier beauty advisor, around 1833, gave a formula for a scarlet lip-salve that called for the use of oil of sweet almonds, fresh mutton suet (no doubt the forerunner of present-day lanolin), and a little bruised alkanet root. Alkanet root is still used as a dye for coloring oils a bright red.

The fastidious woman of today, however, is accustomed to a more finished product, for which her requirements are somewhat contradictory. As one trade expert has pointed out, a lipstick must be hard or rigid enough to withstand the pressure of application, yet soft enough to be easily applied; it must supply a lustrous film that is not greasy, but which can be applied in a thin enough layer as not to be uncomfortable; it must be fluid enough to be easily applied and yet resistant to smearing; it should stay on well and yet be removable at the end of the day. Perhaps first and foremost, it is more or less taken for granted that lipsticks should be entirely safe to use and produce no

untoward effects when applied to so sensitive a part of the body as the lips.

The chief disadvantage in the use of lipstick appears to be its drying effect on the lips, which is often mitigated by including an emollient such as lanolin. Studies of lip dermatitis, swelling, and other irritations from the use of lipstick are attributed to the dyes such as dibromfluorescein, tribromfluorescein, or tetrabromfluorescein used to impart the lasting quality to the indelible-type lipsticks. In some cases, experimentation with different lipsticks until one is found that is satisfactory will solve the problem. In other cases, it may be necessary to shift to a non-indelible or unscented type such as those distributed by Ar-Ex and Almay.

In severe cases of sensitivity or allergy, it may be necessary to give up lipstick entirely and simply use one of the rose lip pomades such as that put out by Avon or Roger & Gallet. The irritation caused by lipstick is usually cured by discarding lipstick entirely without any further treatment except possibly the application of a good lanolin cream or lotion as an emollient. One German publication suggests that inflammation of the lips from the use of lipstick may be caused by rancidity or by a combination of irritation from the coloring matter and some ingredient in the lipstick base.

The safety of the coloring matter used in lipstick is certified by the Federal Food and Drug Administration. Recently the F. & D. Admin. has indicated that it views with suspicion two orange shades and a red shade commonly used in lipsticks, although testimony has been advanced showing that the quantities of the dyes used are so minute as to suggest that any potentially harmful effect would be slight. The

use of lipstick is so widespread that any pronounced ill effect, unless of a delayed nature, from such dyes would likely be reported by physicians throughout the country. CR has not for several years found it necessary to make animal injection tests to determine the potentially harmful effects of lipstick because it is believed that the field has been patrolled with reasonable effectiveness by the F. & D. Admin. The consumer must realize, however, that there are possible delayed aftereffects from contact with dye materials that cannot be completely guarded against by the ordinary methods of toxicological knowledge and research. Experience in the dye industry itself has shown this, for many years ago large numbers of workmen in certain dye manufacturing processes were found to be developing bladder tumors, and these became evident as long as 25 years after exposure to the harmful substances had begun.

The terms "indelible," "non-smear," and "no-smear" have been considered misleading by the Federal Trade Commission and, as careful reading of current advertising will reveal, such products must be referred to as indelible-type or non-smear type.

To a cosmetic chemist, an analysis of various brands of finished products on the market may be of interest, but the average user would find such information of little value. As a matter of fact, she may have her own criteria of what she considers a good lipstick, and who is to say they are not valid?

In order to provide for those who have not time for or interest in making their own comparisons, CR had performance tests made with a panel of 10 qualified observers on 10 brands of lipstick to secure their evaluation of each product's ease of application and distribution, its color uniformity, its appearance (in making the lips look smooth but not greasy), and its

#### Consumer Judgments of Lipsticks in Use

Brands	Ar-Ex	Avon	Coty "Sub-Deb"	Dorothy Gray	Eliz. Arden	Hazel Bishop	Helena Rubin- stein	Max Factor	New Pond's "Lips"	Revlon
<b>EASE OF MELTING</b>										
Very hard	0	0	0	0	0	2	2	0	1	0
Hard	0	1	7	2	0	4	4	3	1	1
Just right	4	5	1	6	3	4	2	4	4	7
Soft	4	4	2	1	5	0	2	3	4	2
Too soft	2	0	0	1	2	0	0	0	0	0
<b>SPREADING QUALITY</b>										
Bad	0	0	1	0	0	1	1	0	0	0
Poor	0	0	1	1	0	1	3	0	1	0
Fair	1	4	6	4	2	2	4	6	1	1
Good	8	4	2	1	3	4	2	0	5	4
Very good	1	2	0	4	5	2	0	4	3	5
<b>COLOR UNIFORMITY</b>										
Bad	0	0	0	0	0	0	0	0	1	0
Poor	1	1	1	1	2	2	2	0	0	0
Fair	3	4	8	3	2	3	3	6	4	4
Very good	6	5	1	6	6	5	5	4	5	6
<b>SMOOTH EFFECT BUT NOT GREASY</b>										
Yes	6	8	7	7	5	6	5	6	7	10
No	4	2	3	3	5	4	5	4	3	0
<b>LASTING PROPERTIES</b>										
Av. No. tis- sues used	6.6	5.2	5.2	5.1	5.3	4.9	5.6	5.5	6.1	4.6
No. of hours	3.8	3.7	3.1	3.3	3.9	4.2	4.0	3.9	3.8	4.4
CR'S RATING	B	B	B-	B	B	B	B-	B	B	A



lasting properties, which included blotting an application on the lips with tissues and recording the number of tissues needed to remove the excess, and the length of time during which an application remained in good condition.

The lipsticks were also weighed to evaluate their cost per gram of actual lipstick, although price is probably not an important factor for most women in determining the selection of a particular brand, since a lipstick will likely be discarded before it is completely used up because fashions in color change or a different shade may be desired to go with a new outfit.

The table indicates the various factors and the evaluations of those participating in the study. CR's ratings have been based on an over-all total of the various factors recorded. The prices ranged from a low of 15 cents per gram for *New Pond's "Lips"* (59 cents for the lipstick), to 38 cents per gram for *Elizabeth Arden* (\$1.50 for the lipstick). The majority of the brands were priced at \$1.10 for a stick of slightly more than 4 grams. (A gram is approximately 1/28 of an ounce.) The prices given do not include federal, state, and municipal sales taxes.

#### A. Recommended

**Revlon Non-Smear Type Lipstick** (Distributed by Revlon Products Corp., 745 Fifth Ave., N. Y. C.) Fire and Ice. 4.5 grams, \$1.10 (25c per gram). **2**

#### B. Intermediate

The two brands listed below the asterisks were considered somewhat lower in performance than others in the *Intermediate* group but not so poor as to warrant a *Not-Recommended* rating.

**New Pond's "Lips"** (Pond's Extract Co., 60 Hudson St., N. Y. C.) Beau Bait. 3.8 grams, 59c (15c per gram). **1**

**Ar-Ex** (Ar-Ex Cosmetics, Inc., 1036 W. Van Buren, Chicago) Poppy. 4.9 grams, \$1.10 (22c per gram). **2**

**Avon Color-Last Lipstick** (Avon Products, Inc., 30 Rockefeller Plaza, N. Y. C.) Clear Red. 3.8 grams, 95c (25c per gram). **2**

**Dorothy Gray Super-stay** (Distributed by Dorothy Gray Ltd., 445 Park Ave., N. Y. C.) Nosegay. 4.3 grams, \$1 (23c per gram). **2**

**Hazel Bishop Lasting Lipstick** (Hazel Bishop, Inc., 445 Park Ave., N. Y. C.) Real Real Red. 4 grams, \$1.10 (27c per gram). **2**

**Max Factor Color Fast** (Max Factor, Hollywood, Calif.) Clearly Red. 4.2 grams, \$1.10 (26c per gram). **2**

**Elizabeth Arden, No. 1054** (Elizabeth Arden, 681 Fifth Ave., N. Y. C.) Stop Red. 3.9 grams, \$1.50 (38c per gram). **3**

\* \* \*

**Coty "Sub-Deb"** (Coty Products Corp., 730 Fifth Ave., N. Y. C.) Bright Red. 4.3 grams, \$1.10 (26c per gram). **2**

**Helena Rubinstein Stay-long** (Distributed by Helena Rubinstein, Inc., 655 Fifth Ave., N. Y. C.) Apple Red. 4.1 grams, \$1.10 (27c per gram). **2**

## Off the Editor's Chest

(Continued from page 2)

number of industries to lobby for stronger protection against international competition. One business letter reports that this pressure has been building up steadily with the decline in business activity in the United States this past year. Already an appeal has been made to Congress by the Bicycle Manufacturers Association to place import quotas on imported bicycles. The lightweight, well-made English bicycle, with a three-speed gear shift, has proved increasingly popular with consumers in this country. Instead of improving their product to meet the challenge of the English bicycle, the U. S. manufacturers are following in the footsteps of the watch manufacturers in demanding, in effect, a subsidy against intelligent and able competition. Other producers, such as chemical

manufacturers, producers of costume jewelry, and makers of briar pipes, all claim to have been hard hit by increased foreign competition, and there will no doubt be pressure exerted in their behalf during the coming year.

It looks as though consumers, as usual, would be forced to bear the cost of a subsidy to American industry to protect it from competition, just when some slight steps are being taken in the direction of getting subsidies to the farmers reduced. Congress and the various governmental commissions seem to have a habit of finding that the consumer is the one who should foot the bill for cost-raising measures which they find politically expedient and helpful to trade unions, manufacturers, farmers, or mine operators.



## Anti-Freeze



**I**T has been expected that during the 1954-55 winter season something like 95 million gallons of anti-freeze will be used for the nation's automobiles, trucks, buses, farm tractors, etc. The so-called permanent type (ethylene glycol) will be the biggest seller, accounting for about 55 percent of the total. Actually, this represents a great waste of money for many consumers, for four out of every five automobiles do not need "permanent" anti-freeze to obtain adequate cold-weather protection. The preference for the "permanent" anti-freeze has been brought about by the belief that many have that it can be used safely for several seasons and is therefore cheapest in the long run. Unfortunately, the rust inhibitors used in all anti-freezes lose their effectiveness. No inhibitor has yet been developed that can be added to used anti-freeze solutions to restore them to their original non-corrosive properties. The ever higher horsepower of modern cars means that their radiators must get rid of more heat, and the cooling systems must be kept at maximum efficiency. If the inhibitor loses its effectiveness, deposits of rust and clogging of the small tubes will occur and cooling will be insufficient for extreme conditions of hot weather and long slow climbs of steep grades. This problem is the more serious with modern cars because design for front-end appearance has been given far more weight than design for movement of maximum quantities of air through the cooling system of the motor. Re-use of an anti-freeze could thus mean that expensive repairs will be required for the cooling system. Manufacturers who guarantee their anti-freeze limit such warranty to only one season's use, and it is believed that none recom-

mend re-use of their product during a second or subsequent season. We regard it as definitely unwise to re-use any anti-freeze solution for a second or third season. CR's position on this matter is fully borne out by opinions expressed on behalf of the National Bureau of Standards, the American Society for Testing Materials, the Society of Automotive Engineers, and the American Automobile Association.

The second largest-selling anti-freeze is methanol, which accounts for about 45 percent of the total sales. Propylene glycol, ethyl alcohol, and isopropyl alcohol are also sold, but these together account for only a very small sale.

### "Permanent" anti-freeze

Anti-freeze of this type is needed only for cars in which a high-temperature (180°) thermostat has been installed because there has been a need to increase the output of the car's heater, or for cars used at unusually high altitudes, or in places where the winter temperature falls below -30°F. There might also be a use for an anti-freeze of this kind where the nature of one's travel is such that wide variations of temperature are experienced. The so-called permanent anti-freeze is less likely to suffer loss when one must drive on warm winter days, yet must be prepared with radiator protection for below-freezing weather also. With alcohol anti-freeze, there is a special problem when a radiator solution intended for a low temperature must provide cooling on days when there is warm or spring-like weather.

Two different brands of ethylene glycol or other anti-freeze should never be mixed together to bring the radiator liquid up to required anti-

freeze strength; the inhibitors may not be compatible and so may react chemically with each other to reduce corrosion protection or to form deposits in the system.

While many will likely use "permanent" anti-freeze solutions without encountering trouble of any kind, so-called "permanent" anti-freeze solutions are rated *B. Intermediate* by CR; they are considered not quite so sure as ethanol (denatured alcohol) or methanol (wood alcohol) to be free from the possibility of clogging a radiator under exceptional circumstances. Moreover, leakage of a glycol or glycerin anti-freeze into the engine and crankcase, which can happen through a number of circumstances, may result in sludge formation which can cause sticking valves and rings, lubrication failure, and serious damage to the engine if operation is continued. (Permanent anti-freeze solutions, because of their high boiling points, will remain mixed with the lubricating oil, whereas alcohol anti-freeze solutions will be evaporated.) In the following list, the percentage of anti-freeze in water solution required to protect to  $-30^{\circ}\text{F}$  was approximately the same (48 to 50 percent) for all brands. Thus purchase can safely be made on the simple basis of relative price per gallon, when a "permanent" anti-freeze is being bought.

#### B. Intermediate

**Allstate Permanent** (Sears, Roebuck & Co.)  
**Atlas Perma Guard** (Standard Oil Co.)  
**Buick Non Evaporating** (Buick Motor Div.)  
**Cities Service Permanent** (Cities Service Oil Co.)  
**Conoco Permanent** (Continental Oil Co.)  
**Firestone Frigitone** (Firestone Tire & Rubber Co.)  
**FoMoCo Permanent** (Ford Motor Co.)  
**General Motors Permanent** (Chevrolet Div.)  
**Kaiser-Frazier Permanent** (Kaiser-Frazier Sales Corp.)  
**Lincoln Permanent** (Ford Motor Co.)  
**Mobil Permazone** (Socony Vacuum Oil Co.)  
**Mo Par Permanent** (Chrysler Corp.)  
**One Fill Permanent** (Pure Oil Co.)  
**Packard Permanent** (Packard Motor Car Co.)  
**Peak Permanent** (Commercial Solvents Corp.)  
**Phillips 66 Permanent** (Phillips Petroleum Co.)  
**Prestone Permanent** (National Carbon Co.)  
**Shellzone Permanent** (Shell Oil Co.)  
**Studebaker Permanent** (The Studebaker Corp.)  
**Texaco P.T. Permanent** (The Texas Co.)  
**U.S.I. Permanent** (U. S. Industrial Chemicals Inc.)  
**Wards Winter King Permanent** (Montgomery Ward & Co.)  
**Zerex Permanent** (E. I. du Pont de Nemours & Co.)

#### Propylene glycol and mixed-glycol-base

These weigh approximately 9 pounds per gallon and are probably satisfactory, but have a major disadvantage in that it is impossible to

measure the protection afforded by use of the usual kind of hydrometer. For this reason and because they are not widely sold, consumers who need a "permanent" anti-freeze will probably be wise to give preference to an ethylene-glycol-base product.

#### Alcohol-base anti-freeze

This type is satisfactory for all cars except those used at high altitudes and where winter temperatures are at times very low (below  $-30^{\circ}\text{F}$ ). The thermostat in the cooling system must be of the standard-temperature type which opens between 150 and 160°, because of the relatively low boiling point of alcohol solutions. The average temperature of the cooling solution in such engines may be around 170°F or even higher, and there will be a temperature rise of around 20°F after the car has stopped and the cooling liquid ceases to circulate; that high temperature and associated surging of liquid account for loss of much alcohol through the overflow in open systems. (This does not present a problem with the improved pressurized radiator systems now used on most cars of recent manufacture.)

#### Denatured alcohol (ethanol)

This is a very satisfactory anti-freeze, but not widely sold at the present time, being largely replaced by methanol.

#### A. Recommended

**U.S.I., Type N** (U. S. Industrial Chemicals, Inc., N.Y.C.)

PERMANENT TYPE (ethylene glycol)	ALCOHOL TYPE (methanol)
\$2.95 per gallon	\$1.50 per gallon
To protect an 18-qt. cooling system to $-10^{\circ}$ requires	
7 qt.	6 qt.
\$5.15	\$2.25*
at a cost of	

\*In some cases an additional quart or two may be required during the season to replace losses from evaporation, depending on how much warm weather, or mountain driving on mild days, there is during the winter season. In modern cars, however, with the pressurized cooling systems now commonly used, the losses of methanol anti-freezes during normal winter driving are usually not substantial, and the cost of the occasional replenishment required will be small.

### Methanol (wood alcohol)

This is the most effective per quart of the non-permanent anti-freezes, but is extremely poisonous. Methanol, properly labeled, carries a skull and crossbones poison warning, is plainly marked "Poisonous," and is usually colored a strong violet hue to distinguish it from other anti-freeze materials. It must be handled with care, and its vapors should not be inhaled. The vapors from all alcohol anti-freeze solutions are highly flammable, and the radiator liquid level should thus never be inspected with a flame.

As some brands of anti-freeze are now sold diluted with as much as one-third water by weight, the careful buyer will wish to purchase on the basis of *total outlay to protect the radiator to the desired low temperature*, rather than on the basis of price per quart asked for the anti-freeze preparation. For example, Brand X contained only 1.6 percent water and required a 40 percent solution to protect to -30°F. Brand Y contained 31.9 percent water and required a 59 percent solution to give the same degree of protection. Thus about 50 percent more of Brand Y than Brand X would be required and, if sold at the same price per quart, Brand Y would be much more expensive to use than Brand X.

In the listings, percentage figures indicate percentage of the anti-freeze in water solution required according to the manufacturers' own dilution tables to protect the cooling system to -30°F.

### B. Intermediate

<b>Allstate Durozone</b> (Sears, Roebuck & Co.)	40%
<b>Allstate Methanol</b> (Sears, Roebuck & Co.)	40%
<b>Blue Club</b> (Cities Service Oil Co.)	55%
<b>Buick Methanol</b> (Buick Motor Div.)	40%
<b>Conoco Methanol</b> (Continental Oil Co.)	44%
<b>Firestone Frigitol</b> (Firestone Tire & Rubber Co.)	41%
<b>FoMoCo Methanol</b> (Ford Motor Co.)	40%
<b>General Motors Methanol</b> (Chevrolet Div.)	42%
<b>Koldpruf</b> (Cities Service Oil Co.)	42%
<b>Mobile Freezone Methanol</b> (Socony Vacuum Oil Co.)	42%
<b>MoPar Methanol</b> (Chrysler Corp.)	43%
<b>Norway</b> (Commercial Solvents Corp.)	44%
<b>Phillips 66 Methanol</b> (Phillips Petroleum Co.)	42%
<b>Pure Sure</b> (Pure Oil Co.)	40%
<b>Shell Super</b> (Shell Oil Co.)	40%
<b>Sinclair Methanol</b> (Sinclair Refining Co.)	42%
<b>Standard Super</b> (Standard Oil Co.)	42%
<b>Super Pyro</b> (U. S. Industrial Chemicals Inc.)	41%
<b>Trek Methanol</b> (National Carbon Co.)	41%
<b>Varcon Bonded</b> (Gamble-Skogmo Inc.)	42%
<b>Varcon 188 Methanol</b> (Gamble-Skogmo Inc.)	59%
<b>Ward's Ice-Guard</b> (Montgomery Ward & Co.)	42%
<b>Zerone</b> (E. I. du Pont de Nemours & Co.)	42%

### Mixtures of alcohols

These are usually mixtures of methanol and isopropyl alcohol. The Esso Co. suggest that the ethanol scale of the hydrometer be used for testing the protection afforded by their product; this is said to give results of sufficient accuracy for the purpose.

### B. Intermediate

**Esso** (Esso Standard Oil Co.)

**Mercury** (Ford Motor Co.)

**Mobil Freezone (Blend)** (Standard Vacuum Oil Co.)

### Undesirable and unsafe types of anti-freeze

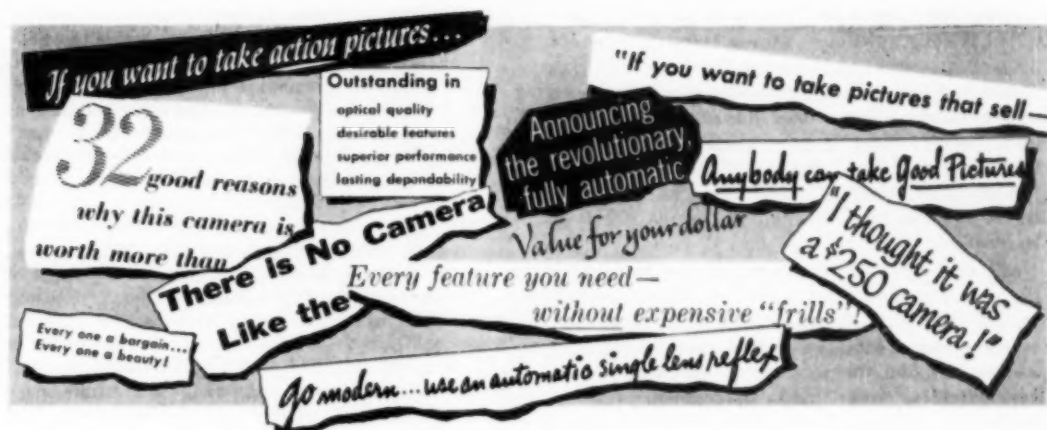
Some states have adopted regulations and provided laboratory services which are intended to prevent the sale of anti-freeze mixtures of a definitely unsafe kind that may do gross harm to the engine and radiator. If your state is one that has official control and conducts analyses of anti-freeze solutions before they are permitted to be sold, ask for information on the laboratory findings, particularly if you are considering the purchase of a product about which there could be any doubt (because the product or its manufacturer is unknown to you or because the name and address of the manufacturer are not shown on the container). One should in no case buy an anti-freeze product of unknown name if there is any question at all about the name and address of the manufacturer or its being a firm of substantial, well-established character, for there have been many cases where people had their engines ruined by use of unsafe material and then found there was no one who could be held responsible through any legal action. The type of fraudulent and harmful anti-freeze most used consisted of calcium chloride or other salt-base material. The claim will often be made that such a product has been rendered non-corrosive by addition of certain secret inhibitors, but such claims may be completely disregarded and treated as 100 percent unreliable. Avoid any anti-freeze which consists of a solution of calcium chloride or other salt-base material *regardless of any claims that may be made for inhibition of such solutions to prevent corrosion of water jacket and radiator*.

Avoid also anti-freezes which consist of petroleum distillate or other oil, often similar to deodorized kerosene, or fuel oil. The boiling point of such products is much too high for safety, and they have a deleterious effect on the rubber hose used in the cooling system.

\* \* \*

The ratings of anti-freezes are based mainly on analyses published by the State Laboratories Department of North Dakota, but CR alone is responsible for the ratings.





## Which Miniature Camera?—Part II

*Editor's Note: Part I of this article, which appeared in the September 1954 issue, covered a number of 35 mm. cameras without range-finders, priced up to \$54.50. This second article covers 35 mm. cameras up to \$99.50. Most of these cameras are equipped with range-finders. A third article reporting on the higher-priced miniatures, including such cameras as the Leica, Contax, Contaflex, Exakta V X will appear in a later issue.*

**M**ANY an amateur photographer decides to buy a 35 mm. camera or buy a new one to replace one with which he is dissatisfied without having really made certain that 35 mm. is the logical choice for his needs. There has been a strong trend toward 35 mm. photography, arising largely out of the fact that this size is peculiarly adapted to the making of color transparencies to be viewed with a projector. Where black-and-white pictures are the principal interest, the amateur's chances of getting good pictures are considerably better with a camera that takes pictures larger than 35 mm. The reason for this is that the resolving power, or sharpness of image, of the lens of a miniature camera must be much higher than that of a larger camera, because the pictures taken with the small camera must be considerably enlarged to produce practically useful results.

While there are many miniature cameras that have lenses which seem very good to the non-

expert, there are few, unfortunately, that have lenses good enough (unless stopped down to an aperture that is often impractically small—particularly for color film) to produce acceptable enlargements or clearly defined pictures on a projection screen. In other words, their sharpness is not sufficiently better than that of lenses of longer focal length to compensate for the loss in sharpness which occurs in the enlarging to the greater magnification required to produce the same size picture as would have been given by a lens of longer focus. Besides, images taken with the 35 mm. camera are so small that the film must be handled and processed with extreme care to avoid scratches and abrasions which are hardly noticeable on an unenlarged picture but can ruin a picture that is enlarged (or projected).

With color, the story is quite different; there is no question that, at the present time, 35 mm. has distinct advantages over film in larger sizes for color photography, chiefly because the processing is done by the manufacturers under conditions which are controlled with care and attention to detail; besides, the transparencies are returned mounted, ready for projection. In larger sizes, Kodak supplies *Ektachrome*, which is not processed by Kodak and is inferior to *Kodachrome* and *Anso Color* in both color quality and grain size. (*Kodachrome* has one-fifth the grain size of *Ektachrome* and one-half the grain size of *Anso Color*. Fine grain means sharper pictures, more satisfactory for projection.)

Take the case of Mr. Jones, whose chief interest in photography is in taking color pictures for projection, and who wishes to take only an occasional roll of black-and-white snapshots for enlargement. Jones now has a low-priced 35 mm. camera, but is not satisfied with it; he wants a better one. He has a choice between a camera with a coupled range-finder, on which the focus is correctly set when the range has been determined through the optical viewer, and a single-lens reflex camera in which the focusing is done on a ground glass, with the aid of a built-in magnifying lens. Unless his need of the camera is for some specialized professional work, such as copying documents, or for medical, dental, biological, or other kinds of scientific photography, he will probably be wise to choose a medium-priced camera with a coupled range-finder, even though such a camera does not as a rule offer a choice of interchangeable lenses that are available on higher-priced cameras or single-lens reflex cameras. Unfortunately, single-lens reflex cameras below the \$200 level will usually lack the precision and finish needed in a camera of this type.

Smith has a different problem. He has a low-priced 35 mm. camera which takes color pictures that he finds satisfactory, but he would like also to take black-and-white pictures of good quality. He has the possibility of keeping his present 35 mm. camera and purchasing a good  $2\frac{1}{4} \times 2\frac{1}{4}$ ,  $2\frac{1}{4} \times 3\frac{1}{4}$ , or larger size camera for black-and-white photography. He will then have two cameras available—one ready for use with color film and the other for use with black-and-white film. A real devotee of amateur photography finds this a very satisfactory situation, for it is annoying when one wants to take color pictures and finds the 35 mm. camera is loaded with black-and-white film. If money is no object, Smith can turn his present 35 mm. camera in on a better one with a range-finder and at the same time pick up a medium-priced  $2\frac{1}{4} \times 2\frac{1}{4}$  or  $2\frac{1}{4} \times 3\frac{1}{4}$  camera for his black-and-white pictures. For a more detailed discussion of the application and advantages of various kinds and sizes of cameras, the reader should refer to the first article in this series, which appeared in the September 1954 issue of CONSUMERS' RESEARCH BULLETIN (also the article in the September 1952 BULLETIN).

### A. Recommended

**Anso Regent** (Anso, Binghamton, N.Y.) \$54.50.

Case, \$6.95; flash unit, \$9.95. *Agfa Apotar f/3.5* coated *Anastigmat* lens of 50 mm. focal length focusing from  $3\frac{1}{2}$  ft. to infinity by movement of lens in

helical mount. *Pronto SV* fully synchronized shutter with rated speeds of 1 to 1/300 sec., and bulb. Self-timer permits the taking of one's own photograph. Has means for preventing double exposure. Eye-level optical view-finder. Folding-bellows type construction, with a sturdy brace structure (an important feature on small folding cameras). All-metal leather-covered body. Lens quality, good. Judged a well-made camera.

**Edinex IIIa** (Distributed by Sterling-Howard Corp., 561 E. Tremont Ave., New York 57) \$67.50. Case, \$5.50; flashgun, \$5.50. *Schneider Xenon f/2* lens of 50 mm. focal length in collapsible mount. Focused from 4 ft. to infinity by movement of lens in helical mount. *Compur Rapid* shutter with rated speeds of 1 to 1/500 sec., and bulb. Synchronized for "X" delay only. Coupled range-finder of the split-image type. Separate eye-level optical view-finder. Had no means for preventing double exposure. Lens quality, satisfactory. Considered a good substantial camera.

**Futura P** (Futura Camera Corp. of America, 153 W. 19 St., New York 11) \$98.75. *Futar f/3.5* coated lens of 45 mm. focal length. Focused from 3 ft. to infinity by movement of lens in helical mount. *Prontor SV* shutter with rated speeds of 1 to 1/300 sec., time, and bulb. Fully synchronized for flash. Coupled range-finder of superimposed image type. Had provision for use of interchangeable lenses which automatically couple to the range-finder. Single window for range- and view-finder (desirable). Die-cast metal body. Lens quality, satisfactory. A well-constructed camera but somewhat heavy.

**Voigtlander Vitessa** (Distributed by Willoughby's, 110 W. 32 St., New York 1) \$99.50. *Color Skopar f/3.5* coated lens of 50 mm. focal length. Focuses from 3 ft. to infinity by movement of lens in helical mount. *Compur Rapid MX* shutter with rated speeds of 1 to 1/500 sec., and bulb. Fully synchronized for flash. Coupled range-finder of superimposed image type with single window for range-finding and viewing (desirable). View-finder corrected for parallax. Combined film advance and shutter cocking by pressing of a single plunger. Bellows construction. Quality of lens, very good. A good camera, well constructed, and easy to use. (Note: This camera with *Ultron f/2* lens is not recommended.)

### B. Intermediate

**Anso Super Regent** (Anso) \$87.50. *Agfa Solinar f/3.5* coated *Anastigmat* lens of 50 mm. focal length focusing from  $3\frac{1}{2}$  ft. to infinity by movement of lens in helical mount. *Synchro-Compur MX* shutter with rated speeds of 1 to 1/500 sec., and bulb. Fully synchronized for flash. Coupled range-finder of the superimposed image type. Similar in construction to *Anso Regent*. Quality of lens, fair.

Some shutters are fully synchronized in that provision is made for adjustment for all types of flashlamps and electronic flash. Cameras with fixed synchronization for one type of lamp (say 5 millisecond delay) are quite satisfactory for most photographers.

**Argus C-3** (Argus Cameras, Inc., Ann Arbor, Mich.)

\$66.50 with flash gun and camera case. *Argus Cintar Anastigmat* f/3.5 coated lens of 50 mm. focal length focusing from 3 ft. to infinity by rotation of lens. Coupled split-image range-finder. Behind-the-lens shutter with rated speeds of 1/10 to 1/300 sec., and bulb. Synchronized for flash. Separate eye-level view-finder. Provision made for interchangeable lenses. Body made of plastic (metal bodies are better). Lens quality, mediocre (resolved about 28 lines per mm. at f/3.5), but like the *Model A-Four*, the C-3 can produce color transparencies which most amateurs will regard as satisfactory. (Color tends to give lens apparent increased sharpness.) Shutter speeds (except 1/50 and 1/100 sec.) inaccurate: about 25% fast at 1/10 sec., 30% fast at 1/20, 50% fast at 1/30 sec. Coupled range-finder was not in correct adjustment. View-finder did not fully cover field of view.

**Argus C-4** (Argus Cameras, Inc.) \$84.50. Flash

unit, \$7.50; carrying case, \$7.50. *Argus Cintar Anastigmat* f/2.8 coated lens of 50 mm. focal length focusing from 3 ft. to infinity by rotation of lens. Coupled superimposed type range-finder combined with view-finder into single window (desirable). Behind-the-lens shutter with rated speeds of 1/10 to 1/300 sec., and bulb. Synchronized for flash with adjustment for 5 or 20 millisecond lamps. Advancing film cocks shutter. Had double-exposure prevention. Provision made for interchangeable lenses (a telephoto and a wide-angle lens are available). Die-cast aluminum construction. Lens was not sharp and would not be judged satisfactory for black and white, but probably many would find it good enough for color shots. Shutter speeds were satisfactory.

**Bantam RF** (Eastman Kodak Co.) \$59.75. Uses

*Bantam* (No. 828) roll, to make 8 pictures each 28 x 40 mm., which is slightly larger than the picture given with 35 mm. film. Coated *Kodak Ektanon* f/3.9 lens of 50 mm. focal length; focuses 2½ ft. to infinity by motion of entire lens. *Kodak Flash 300* (synchronized) shutter; rated speeds of 1/25 to 1/300 sec., and bulb. Superimposed-image range-finder; single window for view-finder and range-finder (desirable). Lens quality, mediocre, but the lens might do well enough for color slides for a non-critical user. Automatic film stop, which permits advancing film one frame at a time, was inoperative on the sample tested. This camera is made largely of plastic.

**Iloca Quick B** (Distributed by Ercona Camera Corp.,

527 Fifth Ave., N.Y.C.) \$79.50. Made in Eastern (Russian) Zone of Germany. *Schneider Iltar* f/2.9 coated lens of 50 mm. focal length. Focusing from 4 ft. to infinity by movement of lens in helical mount. *Prontor SV* shutter with rated speeds of 1 to 1/300 sec., and bulb. Full flash synchronization. Self-timer. Coupled range-finder of superimposed image type, combined with view-finder into single window, a desirable arrangement. Means for preventing double exposure with provision to permit intentional double exposure when desired. Metal body. Qual-

ity of lens, only fair. Camera was awkward to use.

**Kodak Signet** (Eastman Kodak Co.) \$87.50. Case,

\$8.50. *Ektar* f/3.5 coated lens of 44 mm. focal length. Focused from 2 ft. to infinity by movement of entire lens. *Kodak Synchro 300* shutter of the preset type with rated speeds of 1/300, 1/100, 1/50, 1/25 sec. and bulb; click stops from f/3.5 to f/22. Built-in flash synchronization for Class M bulbs only. Coupled range-finder (desirable). Had provision for preventing accidental double exposure with release mechanism permitting double exposures when desired. The body of this camera carries an excellent exposure computer. Quality of lens, very good. Range-finder and scale were accurate. Parts of the shutter were weak, and gears for transporting the film were stamped from metal too thin for the service; it is judged this camera is not likely to stand up well even in normal usage.

### C. Not Recommended

**Bolsey B2** (Bolsey Corp. of America, N.Y.C.) \$58.50;

with flash gun and case, \$66.50. *Wollensak Anastigmat* f/3.2 lens of 44 mm. focal length, focusing from 2 ft. to infinity by movement of lens in helical mount controlled by lever on front of camera. Coupled split-image range-finder. *Wollensak Alphax* shutter with rated speeds of 1/10 to 1/200 sec., time, and bulb, synchronized. Separate eye-level view-finder. Die-cast aluminum construction. Lens quality, mediocre. Lens was easily thrown out of focus by pressure on the camera. Shutter inaccurate.

**Bolsey B22 Set-O-Matic** (Bolsey Corp. of America)

\$69.50; with flash gun and case, \$79.50. Same as *Bolsey B2* except for addition of *Set-O-Matic* device. This, which is coupled to the range-finder, sets the diaphragm at the proper opening for flash photography after adjustment according to the table provided on the back of the camera.

**Contina I 35** (Carl Zeiss, Inc., 485 Fifth Ave., New

York 17) \$77. Case, \$11. *Zeiss Tessar* f/2.8 lens of 45 mm. focal length, focusing from 3½ ft. to infinity by rotation of front lens cell. *Synchro-Compur MX* shutter with rated speeds of 1 to 1/500 sec., and bulb, fully synchronized for flash. Eye-level optical view-finder. Folding-bellows type construction but front brace structure of the lens carrier is weak. This camera might warrant a B rating for a very careful user were it not for the weak gears in film-winding system which develop trouble easily.

**Contina II 35** (Carl Zeiss, Inc.) \$84. Same as

*Contina I* except equipped with non-coupled optical range-finder.

**Diax Ia** (Distributed by Alco Corp., New York 11)

\$89.95. Made in Eastern (Russian) Zone of Germany. *Schneider Xenar* f/2.8 coated lens of 50 mm. focal length with provision for interchanging lenses. *Compur Rapid Synchro* shutter with rated speeds of 1 to 1/500 sec., and bulb. Fully synchronized for flash. Self-timer. Optical eye-level view-finder marked for 35 mm., 50 mm., and 90 mm. lenses.

Advancing film cocks shutter. Lens quality, satisfactory. Shutter easily deranged by impact on the front of the camera.

**Exa** (Distributed by Exakta Camera Co., 46 W. 29 St., New York 1) \$85. Made in Eastern (Russian) Zone of Germany. A single-lens reflex camera with *Ludwig Peronar* f/2.9 coated lens of 50 mm. focal length. Focusing from 3 ft. to infinity by movement of lens in helical mount. Shutter of rotating drum type with rated speeds of 1/25 to 1/150 sec., and bulb. Fully synchronized for flash. Eye- and waist-level finders. Built-in magnifier. Quality of lens,

poor. Shutter, very inaccurate. Trouble with gears and cocking system. Camera judged to be of poor construction.

**Galileo Condor I** (Distributed by Buttafarri Corp., 207 Fourth Ave., New York 3) \$89. *Galileo Eliog* f/3.5 coated 3-element lens. Focuses from 2½ ft. to infinity by movement of lens in helical mount. *Galileo Apton Rapid* shutter with rated speeds of 1 to 1/500 sec., and bulb. Flash synchronizer. Coupled range-finder. Double-exposure prevention. Quality of lens, poor. Shutter speeds inaccurate. Judged mechanically poor.

## Appliance Plugs, a Potential Hazard

**I**N a November 1951 report, CR pointed out a serious hazard in the connectors and plugs of the separable line cords used on many electrical appliances. Although a great number of the better known appliances have permanently-attached cords, a recent survey by CR of appliances in several stores shows a sizable number still using the separate cord with dangerous unguarded connectors of the two- or three-prong male and female type. The male prongs are usually found permanently fastened to the appliance and the female connector is attached to the cord. In most instances, the male prongs are unguarded and a slip of the fingers while the user is connecting the cord will result in a full 110-volt shock from the two bare prongs while the connector is being fitted over them.

A hazard exists also in the female or hollow-chamber connection device which is on the appliance end of the cord. This arises when the plug is removed from the appliance but the cord is left connected into the 110-volt wall or other receptacle. Some might think CR unduly concerned over such hazards, but the conditions represent a very serious danger for young children. An eminent plastic surgeon in Los Angeles, Dr. William Kiskadden, has reported treating, in eight years, injuries to 16 children, mostly under three, with severe electrical burns of the mouth, "almost always caused by putting a live plug into a wet and drooling mouth. . . . It does not stay in the mouth long, but it can do a lot of damage." Dr. Kiskadden's paper mentions the extremely serious aftereffects of some of these burns, which may involve great pain and a long period of disfigurement lasting until adolescence or even later, affecting upper and lower lips, and the tongue. The process of complete repair of the damaged tissue may take a long time, with extensive plastic surgery calling for great

surgical skill. There are two possible solutions to this problem; one is for manufacturers to use, on all appliances, permanently attached cords, that do not disconnect. The other solution is to devise a type of connector in which the live contact elements are placed far back so as greatly to lengthen the leakage path that is involved when such a fitting is put into a child's mouth; better still, perhaps, to design the plug of such size and form that young children would be unable to get it into their mouths. This will not be too difficult, and though it would render the connector larger and unattractive in appearance, it would be a reasonable safeguard whenever there are young children in the home.

A similar problem arises with vacuum cleaners and other appliances which are used with extension cords. Some such appliances are used at the end of a long conductor, and for convenience this wire is made in three or four sections which are coupled together electrically by separable prongs and sockets, variously called plugs and caps for the male fitting and "taps" or "connectors" for the socket part of the cord-connecting device. Any one of these connectors in such a line represents the same hazard to a young child; thus a continuous cord without connectors should be used when possible. Since connectors will be used in many cases, cord and connector manufacturers should at once work toward a general solution of the problem as suggested in the preceding paragraph. The parent of the child must bear in mind, too, that until effective safeguarding means are available in all new connectors and appliances using them, the hazard can be guarded against by disconnecting all appliances regularly at the wall socket so that the wire and its connectors are no longer live.



# Safety Razor Blades

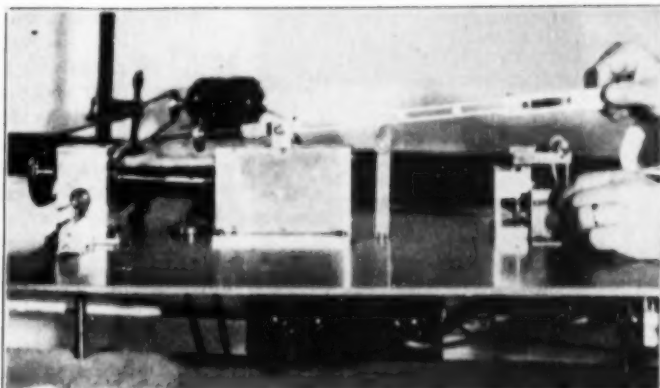


Figure 1—Instrument, designed by C.R., used for measuring the degree of keenness of each edge and uniformity of blades.

**A**LTHOUGH most men shave every day, a good many men never learn to shave without hacking away at themselves, inflicting an occasional cut and looking on the whole process as a nuisance. Shaving one's self can never be a pleasure, but a lot of its troubles can be avoided by using *good* razor blades, and a little organization.

The search for an efficient safety razor blade without some guidance is not easy and is made even more difficult by the apparent reluctance of some manufacturers to make a blade that need not be discarded after two or three shaves. Blades, even of well-known brands, are at times of uncertain and non-uniform quality, and occasionally there are great variations even in a given package. Sometimes the two edges of a single blade show a wide difference in sharpness.

The degree to which the hairs are softened by the preparation of the face before shaving determines in part how many hairs can be cut by a given blade before that blade becomes too dull for further comfortable use. A study made some years ago to investigate the variability in safety razor blades and its causes on the one hand, and the variability in shaving conditions on the other, including their relations to user's satisfaction, showed that there were over 30 variables, of which the more important ones were: time taken in softening the beard, temperature of water used, degree of alkalinity of soap or other shaving medium, time elapsed since the previous shave, and condition of skin and hair as influenced by fatigue, sunburn, windburn, and even by dietary factors. Beard hair, which is chiefly of keratin (a highly complex organic protein), is insoluble in water but ab-

sorbs water readily and so warm soapy water makes it less hard and tough.

A razor blade having sharp edges in a correctly designed razor is but one step leading to a good shave. Equally important is the time taken to soften the hair when using shaving soap with water at a temperature of about 120°F; this time should be not less than three minutes (not less than five minutes for gray or white hairs). It will become increasingly difficult to obtain a close shave if the period of preparation is inadequate, if a stiffer lather is used, if the effective shaving angle varies much beyond about 30° between face and blade, and if the blade becomes dull. More satisfactory results will be obtained in shaving if the skin is stretched to smooth the wrinkles and if the razor stroke is made against the direction of the hair growth. Also, the razor should be rinsed frequently with hot water and both the razor and face kept constantly wet throughout the shaving.

The cutting edge of a razor blade is very thin and delicate, and when it is used, sections of the edge are bent over to one side or the other. Each time a blade is used this condition becomes more pronounced until it results in a "dull" blade whose edge has lost its smoothness and begins to pull. If after each use the blade is stropped, the bent-over edge is straightened back into line. New and unused blades will usually show a marked improvement in keenness if stropped before using. Stropping alone, however, does not fully sharpen the cutting edge; after the edge has been stropped a number of times, the edge becomes round and dull, and must then be honed or discarded.

The most important characteristic of a razor



Figure 2—Close-up of blade clamped into position for back and forth motion on test paper.

blade is its ability to produce a good, clean shave at a moderate cost per satisfactory shave. Our tests were conducted on an instrument designed by CR (Figure 1) which measures the degree of keenness of each edge. In operation, the blade is clamped into position (Figure 2), and the cutting edge of the blade, under a vertical load of about 25 grams, is moved back and forth at the rate of about 60 complete strokes per minute over a strip of fine white paper especially selected because of its uniform quality and thickness. A poorly finished edge or one that looks like the edge that is illustrated in Figure 3 will "saw" through the paper in as few as one or two strokes, whereas a blade having a well-honed and finished edge will give in excess of 70 strokes in each direction, and in some cases considerably more than 100 complete strokes before cutting through the thickness of the white paper. Figure 3 shows enlarged a part of a new razor blade edge which cut through the paper in less than 10 strokes while another blade edge, shown in Figure 4, gave over 100 strokes. The greater the initial sharpness, the longer the blade will take to cut through the paper under the conditions provided. The principle is similar to that of an ice skate, which



Figure 3—A short length (1/20 inch) of the edge of a new razor blade which failed to perform well on CR's razor blade testing instrument. The edge of a blade with nicks of this sort will not give a satisfactory shave. The deeper notch is about .003 inch long. Magnification, 60x.

if sharp, will make only a noticeable track on the ice. If, however, the skate runner is dull and nicked, its marking of the ice will be very evident and the surface of the smooth ice will show clearly evident scratching or gouging.

The design of the device is such that at the instant the blade has cut through the paper an electrical contact is made between the blade and a strip of graphite-impregnated paper beneath the test paper; at the moment of first contact with the conductive graphitized paper, the motion of the machine is stopped. The instrument is quite sensitive to small differences in the keenness of the blades and readily measures breakdown of the edge and its increasing roughness with successive shaves.

As has already been noted, the quality and uniformity of blades vary from time to time and no assurance can be given that blades bought a month or a year from the time of testing of the brands which received an *A-Recommended* rating will give satisfactory performance. Should any recommended brand be found not to give good results, it will very likely be due to variations in the product, and the consumer's best recourse will then be to try another of the recommended brands until one is found that is satisfactory.

Blades of the "private brands" sold by five-and-ten-cent stores were not included in this test because they have in the past showed a considerable degree of variability in performance.

Prices given in parentheses are per blade; price ratings are on a per-edge basis.

### A. Recommended

#### GILLETTE TYPE

**Berkeley** (Consolidated Razor Blade Co., Inc., Div. of Berkeley Industries, 500 Grand St., Jersey City, N.J.) (1.8c) 1

**Craftsman Chrome** (Sears-Roebuck's Cat. No. 9-9303) (2c) 1

**Marlin** (Marlin Firearms Co., New Haven, Conn.) (2.1c) 1

**Pal Hollow Ground** (Pal Blade Co., Inc., 43<sup>rd</sup> W. 57. New York 19) (2.5c) 1



Figure 4—Part of the edge of another blade representative of blades performing well on CR's razor blade testing instrument and capable of giving a good, comfortable shave. Magnification, 60x.

<b>Segal</b> (Segal Safety Razor Corp., 395 Broadway, N.Y.C.) (2.5c)	1
<b>Wards Super Thin</b> (Montgomery Ward's Cat. No. 53-4335) (1.5c)	1
<b>Craftsman Stainless</b> (Sears-Roebuck's Cat. No. 9-9308) (4c)	2
<b>Wards Stainless Thin</b> (Montgomery Ward's Cat. No. 53-4338) (3.9c)	2
<b>Gillette Blue</b> (Gillette Safety Razor Co., Boston) (4.9c)	3
<b>Hoffritz Stainless</b> (Distributed by Hoffritz Cutlery Stores, N.Y.C.) (6.7c)	3
OTHER THAN GILLETTE TYPE (SINGLE-EDGE AND SPECIAL BLADES)	
<b>Goldtone</b> (Goldtone Razor Blade Co., Inc., Newark, N.J.) (2c)	2
<b>Blue Star</b> (American Safety Razor Co., Brooklyn 1, N.Y.) (3c)	3
<b>Craftsman Stainless</b> (Sears-Roebuck's Cat. No. 9-9306) (4c)	3
<b>Durham Duplex</b> (Durham-Enders Razor Corp., Mystic, Conn.) (9c)	3
<b>Ever-Ready</b> (American Safety Razor Corp.) (7c)	3
<b>Gem Duridium</b> (American Safety Razor Corp.) (4.9c)	3
<b>Gem Reversible</b> (American Safety Razor Corp.) (5.8c)	3
<b>Pal Hollow Ground Injector</b> (Pal Blade Co., Inc.) (3c)	3
<b>Personna Injector</b> (Personna Blade Co., Inc., 43 W. 57 St., New York 19) (4.5c)	3

<b>Schick Injector</b> (Eversharp, Inc., 1800 W. Roscoe, Chicago) (3.7c)	3
<b>Treet</b> (American Safety Razor Corp.) (2.9c)	3
<b>Weck Sextoblade</b> (Edward Weck & Co., Inc., 135 Johnson St., Brooklyn 1, N.Y.) (10c)	3

## B. Intermediate

### GILLETTE TYPE

<b>Gillette Thin</b> (Gillette Safety Razor Co.) (2.5c)	1
Durability, relatively poor.	1
<b>Goldtone</b> (Goldtone Razor Blade Co., Inc.) (2c)	1
Durability, poor.	1
<b>Pal Gold Thin</b> (Pal Blade Co., Inc.) (2.5c)	1
Durability and uniformity, poor.	1
<b>Personna Precision</b> (Personna Blade Co., Inc.) (4.5c)	3
Initial sharpness, poor.	3
<b>Professional</b> (Professional Blade Co., Newark, N.J.) (5c)	3
Durability, poor.	3
<b>Silver Star</b> (American Safety Razor Corp.) (4.9c)	3
Uniformity, poor.	3

### OTHER THAN GILLETTE TYPE

<b>Craftsman Chrome</b> (Sears-Roebuck's Cat. No. 9-9221) (2c)	2
Durability, poor.	2
<b>Christy</b> (The Christy Co., Fremont, Ohio) (5c)	3
Initial sharpness, poor.	3
<b>Durham-Enders</b> (Durham-Enders Razor Corp.) (5c)	3
Uniformity, poor.	3
<b>Pal Hollow Ground</b> (Pal Blade Co., Inc.) (2.5c)	3
Uniformity, poor.	3

## Wide Range of Costs in Operating a Car

A U. S. Coast Guard publication, The Engineer's Digest, in reporting an accurate record of maintenance, repair, and operating cost for one of its passenger vehicles, notes that the cost data for any particular vehicle may seem surprising when compared to total or average costs obtained from accounting records. The car in question was a *Chevrolet* sedan purchased new for \$1250 and placed in service on January 4, 1951.

The total cost of carefully followed maintenance checks and specific repairs and replacements of tires, muffler, tail pipe, brake relining, shock absorbers, battery, generator and voltage regulator repair, front-end rebushing, clutch and steering mechanism adjustment, was \$451, for a mileage of about 99,000. The average number of miles per gallon was 14.9, and total cost of gasoline and oil, purchased on the highway with credit cards, for the most part, was \$1900. Operating cost, consisting of gasoline, maintenance, and repairs was \$.024 per mile. The vehicle was sold at the end of its service for \$584. The total cost per mile of operation of the car amounted to about 3 cents, allowing for depreciation (based on the low first cost to the government of \$1250),

gasoline, and other costs, but not including insurance.

The car had never had a breakdown on the highway and had never been involved in an accident. When taken out of service, cylinder compression readings ranged from 125 to 134 pounds; cylinder wear did not exceed .003 inch. There were no excessive carbon deposits. The average operating cost per mile of this car was about one-half that of the average operating cost for eleven other passenger cars, and the gasoline mileage was about 17 percent better.

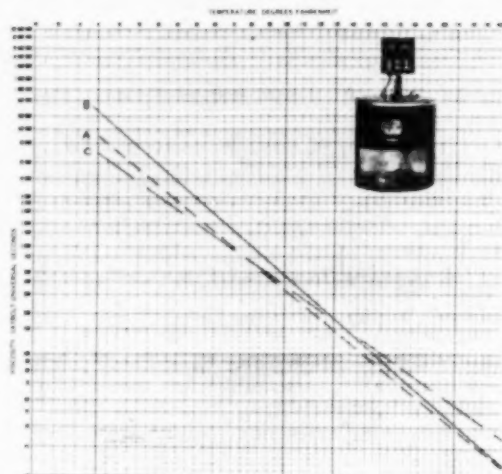
It was thought that these remarkable differences were due to the fact that 90 percent of the mileage operation of the car was with one operator. The comment was made that it is possible that operating costs per mile can be cut approximately in half by having one operator for each vehicle, where it is practicable to arrange this. A Coast Guard engineering circular indicates that their cost of passenger car operation varies from \$.083 to \$.015 per mile, with an average of \$.042, and it is thought that this very wide variation in costs may suggest that the driver is a major factor in automobile economy.

# The Modern Lubricating Oils

THERE have been marked changes in lubricating oils for automobiles in the last two or three years. Requirements for such oils are being constantly modified because of changes in the design of the engines in which the oils are to be used and because the oil refiners must try various lines of development in order to work out a type of oil which seems best suited to meet the varying conditions of engines and of car use.

The changes in design of engines are related to the fact that there has been a natural demand for greater engine operating efficiency to offset the lowered efficiency of utilization of power involved in the automatic transmission mechanisms now furnished on modern cars. Moreover, the consumer expects his automobile to work effectively in places where extremely high and low temperatures are encountered and where there are special problems associated with high humidity and high salt content in the air. The manufacturers of lubricating oils, supplying world markets rather than local markets, cannot know the type of equipment in which the oil may be used, the geographic areas in which the equipment may operate, or the severity of conditions of use and abuse in service. The distributor of lubricating oils can select certain oils for his particular clientele and marketing areas, but the manufacturer of oils must try to produce a product of almost universal application which will have the properties necessary to protect and lubricate efficiently automotive equipment under all operating conditions in every sort of climate—except that the refiner will provide oils of various grades (i.e., grades based on viscosity of the oils).

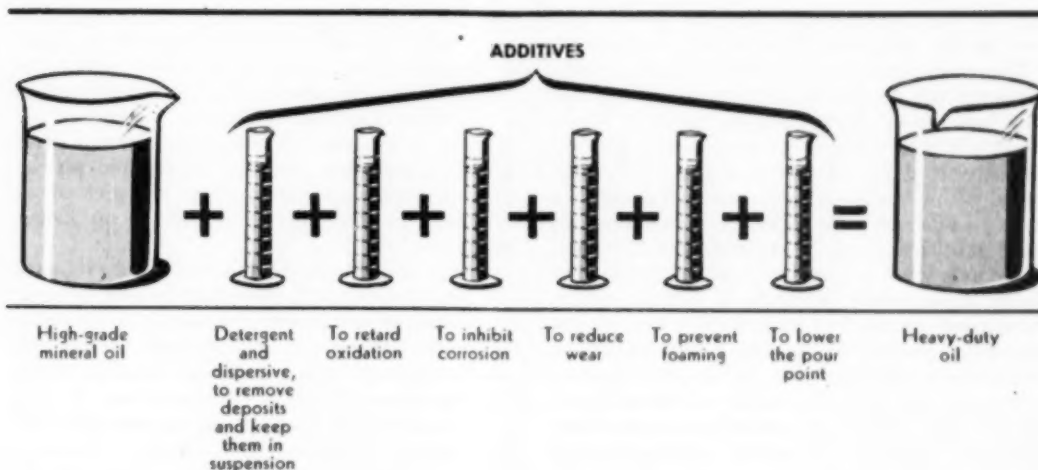
With the engines that were built a few years back, the conventional Pennsylvania motor oil, the Mid-Continent motor oil, and the naphthenic-base motor oils served their intended purpose well. They do well enough today for the lubrication of passenger cars, light trucks, and some buses under driving conditions that are not severe. The desire, however, to achieve maximum economy in manufacture has resulted in refiners trying to produce and distribute lubricating oils of wide adaptability which will serve not only for ordinary light duty, but also for cars, trucks, and buses which present difficult or extreme lubrication problems.



Viscosity-temperature graphs on American Society for Testing Materials chart form of three brands of motor oil, as plotted from data taken with the Saybolt Viscosimeter (shown above at the right).

The Pennsylvania lubricating oils were at one time considered to be oils approaching closest to universal adaptability. Especially was this thought prevalent when dewaxing of oil, together with development of pour point depressants, eliminated one of the shortcomings of the Pennsylvania oils, namely the relatively high temperature at which such oils ceased to flow when used in winter driving conditions. The Pennsylvania oils had good chemical stability, and had a very acceptable viscosity range in so far as high and moderately low temperature operations were concerned. The conventionally refined Mid-Continent oils also served well the need of their time, and the naphthenic-base oils, in spite of limited chemical stability, were well accepted, especially before the importance of the change of viscosity with temperatures was fully understood, and before dewaxing and pour point depressants had been developed. The naphthenic-base oils, which were in most instances products of vacuum distillation, served especially well in the lubrication of Diesel engines. The three types of oils under discussion, Pennsylvania, Mid-Continent, and naphthenic-base motor oils, have to this day an important place in the field of lubrication, and are not being wholly discarded. Pennsylvania oils still are greatly in demand for lubri-





cating engines for aircraft. The drop in volume of sales of Pennsylvania lubricating oils for automobile engines has been offset by the demand for it as a lubricant for aircraft engines.

### Solvent extraction brought new problems

In the early thirties, manufacturers first used solvent-extraction in producing lubricating oils. The original idea in connection with solvent-extraction was to produce from what were apparently less desirable lubricating oil stocks, oils which would have properties resembling closely those of the desirable Pennsylvania oils and the paraffin-base oils of Mid-Continent origin, some of which have properties similar to Pennsylvania oils. The early solvent-extracted motor oils in many instances showed properties similar to those of the Pennsylvania oils, but were found to be wanting in various respects when used in the lubrication of automobile engines. Their chemical stability was not up to the level that was expected in the light of their specific gravities and viscosity indices. The new solvent-refined oils had a tendency to cause corrosion, and often, also because of their tendency to change chemical structure with heat and oxidation, contributed to deposition of substances of various kinds on engine parts because substances produced in the deterioration of the oils failed to remain in suspension. It was then recognized that excessive refining of lubricating oil stocks, with use of acids or solvents, had led to the removal from the oil of substances that had acted as natural inhibitors of corrosion and oxidation. The refining process had also removed certain types of molecules which contributed much towards the ability of the oil to

keep in suspension the products of its own deterioration in service.

It became clear that if the demand for solvent-extracted naphthenic-base oils was to be increased, it would become necessary to replace by the use of added chemical substances, many, if not all, of those desired constituents in the crude oil which were removed in the attempt to impart to a naphthenic-base oil the characteristics of Mid-Continent or Pennsylvania oil. This gave rise to the development of an important industry engaged in the manufacture of *lubricating oil additives* for use by the refining industry. Some additives did much good; others, intended to solve a particular problem, gave rise to new problems of their own. With the outbreak of World War II, the industry began to favor the new types of solvent-extracted, additive-compounded lubricating oils, because Pennsylvania oils and Mid-Continent oils soon became short in supply. It was discovered, too, that the solvent-extracted oils containing additives had properties which made them exceptionally adaptable for use in Diesel engines. One point that increased the demand for the solvent-extracted oils was the wish of oil marketing interests for lubricating oils which had nearly universal adaptability, so that they could be sold for use in either Diesel engines or gasoline engines. Solvent-refined naphthenic-base oils seemed especially suitable for this dual use, and this wider scope of application was a great advantage from a marketing and distribution standpoint.

The lubricating oil additive industry soon developed additives which imparted to the solvent-extracted oils properties equal to, and at times more desirable than, those found in

any of the conventionally-refined motor oils used for the operation of automobile equipment.

The manufacture and distribution of solvent-extracted oils to the Armed Forces during the War had benefited the manufacturers of lubricating oils in two ways. It enabled them to try out solvent-extracted oils that had been reinforced with a variety of additives, and permitted them to increase their capacity to manufacture these lubricating oils at relatively small cost. These oils gave a good account of themselves under the grueling demands of combat equipment, and are said to have served well in hot and moist jungles, in the bitter cold operations in northern climates, and in the dry deserts.

Some of the new lubricating oils were found not adapted fully to use in civilian automobiles. However, with an increasing world demand for motor oil lubricants to be used in air, ground, and sea operations, the supply of motor oils of the conventionally-refined type tended to run out, and the industry and consumers had little choice but to use the new solvent-extracted oils containing additives, which were expressly designed and utilized to overcome the deficiencies that inhered in lubricating oils produced by the solvent-extraction process.

### Frequency of oil change

The solvent-extracted and additive-compounded lubricating oils were and are being constantly improved. There are, however, certain disadvantages in the use of solvent-extracted and additive-compounded oils which were developed to permit less satisfactory oils to be used with improvements in economy to the refiners and the oil industry generally. The additives tend to be exhausted with long use of the oil, and thus more frequent change of engine oil in an automobile may be warranted than was necessary previously with use of the non-additive oils and with engines which were working under less severe conditions than those of today's cars, which are driven at much higher speeds and over longer distances than formerly. It is too early to come to a positive conclusion about the frequency of change of lubricating oil in the engines of cars of recent manufacture, but we believe that it is well to err on the safe side and change oil at intervals recommended by the manufacturer of the car and mentioned in his instruction book given to the user of the car at the time of purchase. Bear in mind the general principle that fairly frequent oil change is indicated when the car is predominantly used for short distances in cold weather or under severe road conditions where a great deal of driving is at high speed and high load. When

the car is driven at moderate speeds and light load over considerable distances at a time, it would be likely that the oil would need to be changed less frequently than under the other conditions described. Today's detergent oils become gray and opaque very quickly after they are put into use, and so the old service station practice of looking at the dip stick to see whether the oil requires change is no longer applicable.

There are circumstances under which, with the new additive oils, there may be greater wear of engine parts than with the simpler oils formerly used. All oils in an internal combustion engine undergo certain chemical changes. These changes may result in the formation of substances which, as they come into contact with bare metal, contribute to corrosion. All motor fuels contain some sulfur, and this, in the process of combustion, gives rise to oxidation products which are to some extent corrosive. These corrosive substances become a part of the stream of lubricating oil, and in contact with moisture, they may attack the bare metal surfaces in the engine. An oil which has an extreme detergent (surface cleansing) effect, or which under a given operating condition does not provide a good protective film over the surfaces in the engine, may not give the desirable protection of metal parts from corrosion.

### The new "wide-range" oils

Within recent months, there have been developed lubricating oils that are supposed to provide all the merits of oils formerly used in cold weather as well as those used in warm weather. Such oils are supposed to combine the properties of SAE 5 and of SAE 20, possibly, too, a light SAE 30 oil. It is distinctly possible that oils of this new type which do not contain the large molecules of earlier petroleum products may introduce new problems in lubrication. It has been well pointed out that, with each new development in automobile lubricants supposed to solve a problem, some new problem arose which had not been anticipated. On this account, we think it wise to take a conservative position with respect to the new combination oils which are supposed to meet the wide viscosity range corresponding to SAE 5 and SAE 20. For our part, we would be inclined to stick to the oils which cover only a single viscosity range, such as SAE 20 or SAE 30, and change, as hitherto, to the lower viscosity oil (10W or 20W) for winter use, in accordance with the instructions given by the manufacturer in the "owner's guide" furnished with his car.

## Evaporated Milk

**E**VAPORATED MILK is a highly standardized product consisting of cow's milk evaporated so that it contains not less than 7.9 percent of milk fat and not less than 25.9 percent of total milk solids, according to the Federal Food and Drug Administration. During processing, the milk is tested for dirt, butterfat, bacteria, flavor, and odor. Then it is preheated and drawn into vacuum pans where about 60 percent of the water is removed. The concentrated milk is pumped through a homogenizer, an operation that reduces the size of the fat globules, to prevent the cream from rising in the final product. The milk is cooled and held under refrigeration until "standardized" by having butterfat increased or decreased to meet the 7.9 percent minimum set by the Federal Food and Drug Administration. Following "standardization," the milk is poured into venthole type cans. Processing or sterilization is continued for 17 minutes at 240°F in an agitating cooker to destroy bacteria as well as give the milk the desired viscosity without producing a casein curd.

Today practically all evaporated milk is fortified with vitamin D either by the addition of a concentrate of natural vitamin D, by feeding irradiated material to the cow, or by irradiation of the milk itself by ultraviolet rays. Federal Specifications require that milk with added vitamin D must be labeled "with increased vitamin D content," or "vitamin D content increased." The standard fixes the minimum level for added vitamin D at 25 U.S.P. units per fluid ounce of finished evaporated milk (or 400 U.S.P. units per reconstituted quart of milk). This is sufficient in the customary amount of milk fed to infants to prevent rickets and to satisfy vitamin D requirements for growth.

Except for the loss of 39 to 60 percent of thiamin content and some vitamin C (vitamins not dependent on milk as their main source for dietary requirements), evaporated milk has all the important nutritive qualities of raw milk. Some people who are allergic to raw and pasteurized milk find they are able to use

evaporated milk instead. During the process of evaporation, the protein is changed to a certain extent so that the curds formed in the stomach will be softer and finer, which is one reason why evaporated milk lends itself well to infant formulas. The composition of all brands of evaporated milk is considered to be sufficiently uniform so that almost any brand may be considered safe for feeding infants, provided allowance is made for the vitamin D content of the fortified brands. Several years ago the Department of Health of the State of New Hampshire tested 22 samples of evaporated milk and found that the various brands of the product were practically uniform. A test made by CR in 1942 and a test of 12 brands made by the State Laboratories Department of North Dakota reported in 1942 showed similar results. One can of evaporated milk when diluted with an equal volume of water produces a liquid approximately equivalent to the composition of whole sweet milk (a 14½-ounce can will make a quart of "reconstituted" milk). In the following paragraph, typical prices are given.

For thrifty housewives who are making the food dollar count today, the use of evaporated milk may be important. A recent comparison of the price of evaporated milk in relation to fresh pasteurized and homogenized milk in a town in an eastern state indicated that fresh milk is about 1½ times to twice as expensive as evaporated milk, for nearly equal nutritional values. In a large self-service store in the east, the price of a 14½-ounce can of evaporated milk varied from 12.5 cents to 13.5 cents compared with a quart of fresh homogenized milk at 24.5 cents and a quart of non-homogenized fresh milk at 23.5 cents. The price ratio of evaporated milk in relation to fresh was similar in the small grocery stores, though each was priced a few cents higher per quart. Evaporated milk may be purchased in 6-ounce cans at about 20 to 25 percent higher cost per ounce for those who wish to buy in smaller units. Over a period of time, any family that makes considerable use of milk in meal preparation could save substantial

money by using evaporated milk in preference to part, or all, of fresh milk.

Unopened cans of evaporated milk which are to be stored for over two months should be turned upside down every few weeks to prevent the formation of a creamy layer on top. A white sediment composed of calcium and magnesium salts is occasionally found in a can of evaporated milk. These precipitated salts are never more than a small fraction of the total available in the milk, however, and cannot be considered a significant nutritive loss. After ten months of storage, the color of evaporated milk tends to darken somewhat. It will keep for approximately three years. Evaporated milk which has been kept for some time in an open can in the refrigerator may produce a grayish-green color when added to coffee. This color change is due to contamination with iron from the can; storing the milk in glass or porcelain avoids this change. One of the most objectionable features of evaporated milk is the slight caramelization of the milk sugar during the sterilization and condensing process resulting in a darkened color and a flavor different from fresh milk. While sealed in the can, evaporated milk is sterile, but as soon as it is opened, bacteria enter, so that the milk must be kept cool in the refrigerator food space like fresh milk.

In addition to use in infant formulas and diluted as a milk beverage, evaporated milk may be employed for the preparation of food in a variety of ways. Many people use diluted evaporated milk in casseroles, scalloped dishes, cream soups and sauces, custards, breads, cakes and other baked products. Without water, it is used as cream in preparing scrambled eggs, cake frosting, pie fillings, homemade ice cream, candies, molded salads, mashed potatoes, and in coffee. A little lemon juice or vinegar is added to evaporated milk to use it as sour milk in baking. For whipping, it should first be chilled undiluted in the freezing compartment until fine ice crystals develop. The bowl and beater should also be chilled, and a few drops of lemon juice may be added to make the whip more "permanent." Whipped evaporated milk is used for toppings and garnishings, frozen desserts, chiffon pies, and fruit whips. Since in the sealed can it does not require refrigeration, some housewives keep a reserve supply of evaporated milk on their emergency shelf to supply needs when preparing meals for unexpected guests.

Results are given herein of tests conducted to determine the lead content in various brands of evaporated milk, using CR's tentative tolerance of 0.3 parts per million of lead as the upper

limit in judging the various brands. Lead is a particularly harmful metal, and small amounts of its compounds are found in many foods, and sometimes even in drinking water. In some persons, these accumulate in the body, resulting in chronic illness characterized by severe anemia and changes in the kidneys and arteries when any considerable quantity has been ingested. Whenever the daily intake is one milligram (1/500,000 of a pound) or more, the eventual accumulation may become harmful to health. Some evaporated milk may contain a trace of lead because a solder containing lead is commonly used by manufacturers in sealing the cans at the seams and at the central vent.

The following are the results from CR's tests for lead (determination by spectrographic analysis). These, except for the findings on one brand, are in general agreement with other sources, indicating that normally lead-tin solder sealing of cans is not a significant source of contamination of canned evaporated milk. The amount of lead found in one sample highest in lead content might be sufficient to contribute to impairment of health in some persons, since the average American is ingesting something like 0.25 to 0.35 milligram of lead daily with the normal diet. Some consider an amount in excess of 0.1 to 0.3 mg. of lead per day as possibly dangerous. Some years ago it was reported that tests of fresh milk showed amounts of lead varying from a negligible quantity to a maximum of about 0.3 part per million (equivalent to 0.3 milligram in a quart). Recent tests show values as high as 0.6 and 1.3 parts per million of lead in powdered skim milk.

Lead Determination in Evaporated Milk

Brand	Lead Content (parts per million)	
	Sample No. 1	Sample No. 2
<i>Bordens</i>	None	1.6 <sup>1</sup>
	0.35 <sup>2</sup>	0.20 <sup>3</sup>
<i>Carnation</i>	None	None
<i>Cherub</i>	None	—
<i>Danish Creamery</i>	None	—
<i>Freshpak</i>	None	None
<i>Louella</i>	None	None
<i>Nestles</i>	None	None
<i>Pet</i>	0.10	None
<i>Sego</i>	0.05	—
<i>White House</i>	None	None

<sup>1</sup>Equivalent to 0.66 mg. of lead in a 14½-oz. can.

<sup>2</sup>Equivalent to 0.14 mg. of lead in a 14½-oz. can.

<sup>3</sup>Equivalent to 0.08 mg. of lead in a 14½-oz. can.



## Rebuilt Automobile Tires

THE article on this subject which appeared in the December 1953 issue aroused considerable interest among our subscribers, and several have written to give us an account of their experiences with recapped tires. Parts of some of these letters are reproduced below. Results obtained with recapped tires appear to be quite variable; it would be helpful if other subscribers who have had experience—favorable or otherwise—with such tires would write and state just what sort of mileage they have received and whether there have been difficulties of any kind.

...I find that your article is timely as there is a great deal of recapping being done in this area. I drive two cars, a Chevrolet Station Wagon and a Ford Sedan, and we put on about 1000 miles per month on each car, so we are quite average for this community [a small city in Iowa]. However, our roads are mostly crushed rock, which leaves a lot of tiny jagged edges on the roadbed. It is perhaps the hardest type of road that tires are asked to take. Recapped tires are not capable of taking this rough treatment.

I have used tires recapped by three large nationally-known tire manufacturers because I have had many good carcasses on which the rubber was worn thin, and the prices appealed to me instead of buying new tires, and one is not better than the other. The only way I can get service out of the recaps is to put them on in the fall and drive thru the winter; with one exception, no recap has been able to go thru the summer, too. In fact, 4 recaps put on since last May are already out of service in November.

The tread is good. From the outside the tire looks as if it had not seen service in some cases, so the rubber is good, but the tire breaks or cracks or blows out. And yet in each instance I have given strict orders not to recap any tire that does not have a perfect carcass.

Besides the fact of the poor service is the constant danger from blowouts, which is the more deceiving because it appears that the tires are new and one feels more secure on the new treads than on the thin older ones. Living among hills and curves I feel that I am not justified in using recaps unless I use them in the winter season (they stand up better when cold) and unless I can get them for \$8 or \$10 apiece. They will not recap them for less than \$12.50 here, maybe more, but they will sell tires that they have recapped for the lower figure mentioned when they get an oversupply. Sometimes they even hold

auctions and one can get them for even less; only under these circumstances could one afford to use them.

\* \* \*

A Virginia correspondent writes:

...On two recapped tires of Brand A<sup>1</sup> which cost \$10.75 each, I got only 13,500 miles. On one B Brand recap, for which I paid \$9.70, I got 33,000 miles (this tire was run mostly on the back wheels). Two C Brand recapped tires at \$12 each, gave approximately 24,000 miles. The C Brand tires as well as the A were run on both front and back. On my original D Brand tires, which came on the car, I got approximately 25,000 miles and on new Brand E tires, which in 1950 cost me two for \$37, I got 27,000 to 28,000 miles.

I have had some trouble keeping my 1949 Ford front end aligned properly which will account for getting less mileage when tires are used on the front. I have had no bad experience with recaps, but the manager of one recap plant in Richmond told me he never used recaps on the front of his car in the summer time; however, I have and it has been entirely satisfactory. Practically all of my driving is on hard-surfaced roads.

\* \* \*

A Lincoln, Nebraska, consumer writes:

...I thought you might be interested in my experience with tires recapped by D Co. I bought four top caps on assorted carcasses May 1951. I understood they were guaranteed like new tires. One ran 700 miles and blew out. They replaced it. The replacement ran 3500 miles and started leaking audibly. I stopped before it was flat; the cords were broken. They replaced it; I paid for the miles I had used it. This replacement ran a few thousand miles and blew out with a bang. They said they could not get good carcasses of this size 6.50-16, so we settled for a new F Brand tire, paying about \$10 in the trade. The other three original recaps did better. One on a G carcass ran 21,700. The inside was broken sufficiently to pinch the tube. One on an H carcass ran 24,000 and was punctured. On examining it, we found several weak places in the side wall. The other on an I carcass is still going at 28,000. It has about 1/16" of tread and shows no sign of deterioration. It would seem good carcasses are hard to find.

<sup>1</sup>A and E are tire brands of a well-known national mail-order dealer; B, C, D, G, and I are large, nationally-known tire manufacturers; F and H are less-known names.

Month Page	Month Page	Month Page
Advertisements, price information, helpful..... Sept., 3	Coffee makers, electric?..... July, 5-12	Paintbrush, "3 in 1"..... Mar., 21
Air conditioners, window?..... May, 5-11	Consumer, as affected by taxes..... Sept., 2, 23-24	Painting, house, priming..... Feb., 23
Automobiles, 1954?..... Dodge Royal V-8; Plymouth Savoy; Plymouth Plaza Suburban (station wagon)..... Feb., 10-13	Consumers' Research Bulletin items, reprinting..... Jan., 28	Paints, latex, interior?..... Aug., 27-29
Chevrolet Two-Door; Chevrolet Handyman 210 (station wagon); Chevrolet Bel Air Powerglide; Nash Statesman Custom; Pontiac Star Chief DeLuxe Hydra-Matic; Pontiac Chieftain 8 Special Station Wagon; Studebaker Champion Regal..... Mar., 15-21	Corrections and amendments?..... Jan., 16; Mar., 26; June, 3; Aug., 21	load, on children's furniture and toys, hazardous..... Sept., 4
Chrysler New Yorker V-8; Chrysler New Yorker V-8 Deluxe; DeSoto Firedome V-8; Hudson Super Jet; Mercury Monterey..... Apr., 13-17	Counter top materials?..... May, 14-18	Pans, cooking, types..... Apr., 21-24
Buick Special 40; Hudson Hornet; Nash Rambler Custom; Oldsmobile Ninety-Eight; Plymouth Savoy..... May, 24-28	Cutting and shaping?..... May, 18	Piano soundboard..... Jan., 26
Buick Century 61; Buick Roadmaster Series 70; Cadillac 62; Ford 6 Customline; Ford 6 Customline Fordomatic; Ford V-8 Customline; Ford V-8 Customline Fordomatic; Ford 6 Customline Ranch Wagon; Lincoln Capri; Oldsmobile Super 88; Packard Clipper DeLuxe; Studebaker Commander DeLuxe Starlight Coupe; Studebaker Commander DeLuxe Conestoga (station wagon); with table rating 62 cars, 6 station wagons; discussion of automatic transmissions..... June, 5-29	Covers, toilet tank and seat lid?..... Jan., 34	Piping, water, for the home..... Mar., 27-30
Morris Minor Series 11..... July, 13	Deodorizers and ozonators?..... Apr., 18-20	Pistol toy?..... July, 12
Automobiles, design Apr., 24; June, 2, 29-30;..... Aug., 2, 27-28	Detergents, synthetic?..... May, 12-13	Polishes, shoe..... Jan., 17-19
Backache, low..... Aug., 18-21	Desirable effects Aug., 34; Sept., 4	silver?..... Feb., 19-23; Mar., 3
Backache and headache from improper bedpadding and mattress..... Aug., 4	Do-it-yourself trend..... Aug., 3; Sept., 3	Pork, lean, supply..... Sept., 33
Battery, storage?..... July, 27-29	Drills, hand, electric? Feb., 5-9; June, 30	Pot cleaner and scour cloth?..... Feb., 34
additive..... Jan., 2, 27-28	Drugs, effects compared with placebos..... Sept., 33-34	Pumps, shallow-well?..... Jan., 20-26
Camera, stereo?..... Aug., 13	Dryer, clothes?..... July, 24-25	
Cameras, choice of, and miniature?..... Sept., 25-30	Dust control, sprays?..... July, 25-26	Rats, extermination..... Sept., 34
Carbon tetrachloride a hazard..... July, 34; Sept., 24	Editorial..... each issue, page 2	Record players, new?..... Aug., 29-30
Cigarette filtera, misleading advertising?..... Apr., 3; July, 4, 33	Fabrics, pile, dry cleaning..... Aug., 34; Sept., 3	Records, phonograph?..... each issue
	Fire extinguishers, vaporizing..... Aug., 2, 25-26	long-playing, care..... Apr., 27-28
	liquid types a hazard..... May, 13	static-free, needed..... Sept., 3
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	Foods, sophistication of modern..... Jan., 29-30; Mar., 9; July, 2, 20-21	Rugs, cotton and synthetic fiber, soil-retarding treatment?..... Feb., 3
	Freezers, food?..... Aug., 5-13	wool, summer care..... July, 33
	Heating controls, automatic?..... Feb., 24-30	Scales, bathroom?..... Jan., 13-16
	Ice chip tray, plastic?..... Sept., 34	Screen materials, window?..... Aug., 22-25
	Lamp cord accessories?..... Mar., 10-13	Shavers, electric?..... Jan., 5-8
	Lawn mower, hand?..... June, 36	Sheets, fitted?..... Feb., 14-18
	hints on storing?..... Sept., 3-4	Soaps, toilet?..... Apr., 10-12
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	Mixers, electric, portable?..... Apr., 5-9	Sunscreen preparations?..... June, 31-33
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	Nail lacquers?..... Sept., 11-13	antennas, miniature?..... July, 22-23
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**"Water Treatment" Through a clerical error the first sentence in this article referred to an editorial in Electrochemical Industry. The name of the periodical should have been the Journal of the Electrochemical Society.**

Electric  
Coffee Makers  
Page 7  
July '54 Bulletin

The Underwriters' Laboratories (UL) advised us in July that they now list the *Dormeyer Model 6800* coffee maker; they also list the *Camfield Model P62* coffee maker, which supersedes the *Model P61*, as mentioned in the listing on page 10.

# Ratings of Motion Pictures

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines — some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

*Box Office, Cae, Daily News (N.Y.), The Exhibitor, The Film Journal, Films in Review, Harrison's Reports, Joint Estimates of Current Motion Pictures, Motion Picture Herald, National Legion of Decency, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D. A. R., Preview Committee, Reviews and Ratings by the Protestant Motion Picture Council, The Tablet, Time, Variety (weekly).*

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), or C (not recommended) on its entertainment values.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

<i>adv</i> —adventure	<i>mel</i> —melodrama
<i>biog</i> —biography	<i>mus</i> —musical
<i>c</i> —in color (Technicolor, Cinecolor, Trucolor, Magnacolor, Vitacolor, etc.)	<i>mys</i> —mystery
<i>car</i> —cartoon	<i>nov</i> —dramatization of a novel
<i>com</i> —comedy	<i>rom</i> —romance
<i>cri</i> —crime and capture of criminals	<i>sci</i> —science fiction
<i>doc</i> —documentary	<i>soc</i> —social problem drama
<i>dr</i> —drama	<i>tran</i> —travelogue
<i>fan</i> —fantasy	<i>war</i> —dealing with the lives of people in wartime
<i>hist</i> —founded on historical incident	<i>wes</i> —western

A	B	C		
7	10		About Mrs. Leslie	dr A
1	14	1	Adventures of Robinson Crusoe	adv-c AYC
1	3	—	Aida (Italian)	mus-dr-c AY
4	6	—	Ana-Ta-Han (Japanese)	war-dr A
2	5	—	Angels One Five (British)	war-dr AY
1	4	—	Anita Garibaldi (Italian)	hist-dr A
2	7	2	Apache	dr-c A
—	3	—	Appointment for Murder (Italian)	cri-mel A
—	5	4	Arrow in the Dust	mel-c AYC
1	5	1	Barefoot Battalion, The (Greek)	war-dr AY
—	3	5	Battle of Rogue River	mel-c AYC
2	7	4	Beauties of the Night (French)	dr A
—	1	4	Betrayed	war-mel-c A
—	4	1	Bitter Creek	wes AYC
—	8	2	Black Horse Canyon	wes-c AYC
2	4	—	Black Shield of Falworth, The	adv-c AYC
—	2	4	Blackout (British)	mys-mel A
—	4	—	Bounty Hunter, The	wes-c A
—	1	3	Bowery Boys Meet the Monsters, The	com AYC
1	2	3	Brigadoon	mus-com-c AYC

A	B	C		
4	8	1	Broken Lance	wes-c AY
—	1	3	Bullet is Waiting, A	cri-mel-c A
10	6	2	Caine Mutiny, The	war-dr-c AY
—	2	1	Calling Scotland Yard (British)	cri-mel A
—	3	5	Captain Kidd and the Slave Girl	adv-c A
—	8	8	Carnival Story	mel-c A
—	1	4	Caroline Cherie (French)	dr A
1	6	8	Casanova's Big Night	com-c A
—	2	4	Cat-Women of the Moon	sci A
—	6	3	Challenge the Wild	doc-c AYC
1	2	1	City Story	soc-dr AYC
—	—	3	Companions of the Night (French)	soc-dr A
3	9	2	Cowboy, The	wes-doc-c AYC
—	7	2	Creature from the Black Lagoon	sci AY
—	1	5	Crossed Swords	adv-c A
—	4	8	Dangerous Mission	cri-mel-c AY
—	6	1	Daughters of Destiny (French)	dr A
—	6	4	Dawn at Socorro	wes-c A
5	8	3	Demetrius and the Gladiators	dr-c A
—	5	1	Desires (German)	soc-dr A
—	6	—	Desperado, The	wes A
—	1	2	Destination Matrimony (Italian)	com A
—	—	—	Devil's Pitchfork (see Ana-Ta-Han)	
3	9	3	Dial M for Murder	cri-mel-c A
—	2	8	Diamond Wizard, The (British)	cri-mel AYC
1	4	7	Diary of a Country Priest (French)	dr A
—	5	6	Dirty Hands (French)	war-dr A
—	8	3	Dragnet	cri-mel-c AYC
—	8	—	Dreams of Love (French)	mus-biog A
—	7	8	Drive a Crooked Road	mel A
—	6	3	Drums Across the River	wes-c A
—	2	5	Duel in the Jungle	mel-c A
—	4	5	Earrings of Madame De, The (French)	dr A
—	3	5	Edge of Divorce (British)	soc-dr A
1	5	1	Egyptian, The	dr-c A
—	9	4	Elephant Walk	nov-c A
6	9	3	Executive Suite	nov A
—	2	3	Fangs of the Wild	mel A
—	2	1	Fighting Pimpernel, The (British)	mel-c AYC
—	6	3	Fireman Save My Child	com AYC
1	2	13	Flame and the Flesh	mel-c A
—	2	3	Flamenco (Spanish)	doc-c AYC
—	2	3	Forty-Niners, The	wes A
1	9	1	Francis Joins the Wacs	com AYC
—	2	1	French Touch, The (French)	com A
—	4	3	Gambler from Natchez, The	mel-c A
3	9	3	Garden of Evil	dr-c A
—	2	3	Genoese Dragnet (Italian)	mel A
—	4	3	Girls Marked Danger (Italian)	dr A
—	6	7	Gog	sci-c A
—	3	3	Golden Idol, The	adv AYC
—	8	4	Golden Mask, The	adv-c A
—	6	6	Gorilla at Large	mel A
—	3	5	Guilt is My Shadow (British)	mys-mel A
2	9	—	Gypsy Colt	dr-c AYC

A	B	C			A	B	C		
1	6	6	Heil and High Water	war-dr-c AYC	—	6	2	Queen's Royal Tour, A	doc-c AYC
—	9	5	Hell Below Zero	mys-mel-c A	—	—	—	(British)	—
—	8	2	Hell Raiders of the Deep	war-dr A	—	4	5	Racing Blood	mel AYC
—	6	7	Her Twelve Men	com-c AYC	—	5	3	Raid, The	war-mel-c AYC
1	4	—	High and Dry (British)	com AYC	—	6	6	Rails into Laramie	wes-c A
8	3	4	High and the Mighty, The	dr-c A	—	8	4	Rear Window	mys-mel-c A
2	12	2	Hobson's Choice (British)	com A	1	12	6	Red Garters	mus-wes-c A
—	1	6	Human Desire	cri-mel A	—	3	3	Red Inn, The (French)	cri-mel A
2	3	—	Immortal City, The	doc-c AYC	—	4	3	Return from the Sea	war-rom AYC
—	4	12	Indiscretion of An American Wife	dr A	—	8	3	Return to Treasure Island	adv-c A
—	4	6	Iron Glove, The	hist-mel-c AYC	—	8	3	Riding Shotgun	wes-c AYC
—	3	1	Jazz Dance	doc AY	—	5	6	Ring of Fear	mel-c A
1	2	1	John Wesley (British)	biog-c AY	—	2	3	River Beat (British)	cri-mel A
—	10	4	Johnny Dark	mel-c AYC	—	10	5	River of No Return	mel-c A
1	6	9	Johnny Guitler	wes-c A	—	3	6	Rocket Man, The	sci AYC
—	2	7	Jungle Man-Eaters	adv-c A	1	10	4	Rose Marie	mus-dr-c AYC
—	4	1	Khamishia (Israeli)	dr AY	4	5	—	Royal Tour of Queen Elizabeth	—
—	3	2	Khyber Patrol	adv-c AYC	—	—	—	& Philip (British)	trav-c AYC
1	6	4	King Richard and the	—	3	6	1	Sabrina	com A
—	—	—	Crusaders	hist-mel-c A	—	6	3	Saint's Girl Friday, The	mys-mel A
4	12	2	Knock on Wood	com-c AYC	—	2	9	Salt of the Earth	propaganda-soc-doc A
—	3	5	La Ronde	dr A	—	3	8	Saracen Blade, The	adv-c A
—	7	5	Laughing Anne	mel-c A	1	8	6	Saskatchewan	mel-c A
—	2	5	Law vs. Billy the Kid, The	wes-c A	—	1	6	Scarlet Spear, The	mel-c A
—	6	3	Le Plaisir (French)	dr A	—	6	5	Scotch on the Rocks (British)	com AYC
—	6	1	Little Kidnappers, The (British)	dr A	—	2	2	Secret Assignment (Italian)	war-dr A
2	7	4	Living It Up	mus-com-c AYC	—	2	4	Secret Document (Viennese)	dr A
—	2	5	Lone Gun, The	wes-c AYC	—	8	2	Secret of the Incas	adv-c A
1	6	3	Lonely Night, The	doc-dr A	—	3	2	Security Risk	mys-mel AYC
—	5	10	Long Wait, The	cri-mel A	—	1	7	Sensualita (Italian)	dr A
—	—	4	Lovers of Toledo, The (French)	dr A	6	10	—	Seven Brides for Seven	—
—	9	5	Lucky Me	mus-com-c AYC	—	1	2	Brothers	mus-com-c A
—	6	2	Ma and Pa Kettle at Home	com AYC	—	7	3	Shield for Murder	cri-mel A
—	3	6	Mad Magician, The	cri-mel A	—	9	6	Side Street Story (Italian)	dr A
3	8	4	Magnificent Obsession	dr-c A	—	6	3	Siege at Red River, The	mel-c AYC
—	7	8	Make Haste to Live	cri-mel A	—	4	6	Silver Lode	wes-c A
—	4	7	Malta Story (British)	war-dr AYC	—	1	7	Sins of Rome (Italian)	dr A
4	7	6	Man with a Million (British)	dr-c AYC	—	5	1	Southwest Passage	wes-c A
—	1	6	Massacre Canyon	wes A	1	6	1	Spell of Ireland, The	trav-c AYC
—	4	—	Melody of Love (Italian)	mus-dr AYC	—	9	6	Stormy, the Thoroughbred	doc-c AYC
2	12	1	Men of the Fighting Lady	war-dr A	—	2	1	Student Prince, The	mus-dr-c AYC
—	1	3	Mexican Bus Ride	dr A	—	6	5	Suddenly	cri-mel A
—	12	3	Miami Story, The	cri-mel A	—	—	—	Susan Slept Here	com-c A
—	4	4	Mistress of the Mountains	—	—	4	9	Tanganyika	adv-c AYC
—	—	—	(Italian)	dr A	—	6	3	Taza	mel-c AYC
—	4	6	Moment of Truth, The (French)	dr A	—	8	5	Tennessee Champ	com-c A
2	9	2	Mr. Hulot's Holiday (French)	com A	—	1	2	Texas Bad Man	mel AYC
—	3	4	My Heart Sings (Italian)	mus-dr A	2	11	3	Them	sci A
—	3	4	Naked Alibi	cri-mel A	—	1	3	This Is Your Army	doc-c AYC
3	7	5	New Faces	mus-com-c A	4	10	2	Three Coins in the Fountain	dr-c A
5	12	—	Night People	mys-mel-c A	—	—	3	Three Stops to Murder	—
—	7	9	On the Waterfront	dr A	—	—	—	(British)	mys-mel A
1	3	1	Othello	dr A	—	3	3	Thunder Pass	wes AYC
3	8	3	Out of this World	trav-c AYC	9	6	6	Top Banana	mus-com-c A
—	4	6	Outcast, The	wes-c A	2	10	1	Unconquered	biog AYC
—	5	2	Outlaw Stallion, The	wes-c A	—	2	3	Untamed Heiress	com AYC
—	5	2	Paris Incident (French)	dr A	—	—	—	—	—
—	1	4	Paris Playboys	com AYC	2	4	8	Valley of the Kings	mel-c A
—	8	4	Phantom of the Rue Morgue	cri-mel-c A	—	8	5	Vanishing Prairie, The	doc-c AYC
3	6	2	Pickwick Papers, The (British)	dr AYC	2	9	1	Victory at Sea	war-doc A
—	4	5	Pit of Loneliness	soc-dr A	—	2	5	Weak and the Wicked, The	soc-dr A
—	3	11	Playgirl	dr A	—	—	—	(British)	—
—	—	3	Pleasure Garden, The (British)	fan A	1	1	1	White Christmas	mus-com-c AYC
—	4	2	Pride of the Blue Grass	dr-c AYC	—	9	7	Witness to Murder	cri-mel A
—	11	3	Prince Valiant	adv-c AYC	—	3	—	Woman's Angle, The (British)	dr A
—	1	8	Princess of the Nile	adv-c A	—	6	8	Yankee Pasha	adv-c A
—	1	13	Prisoner of War	war-dr A	—	4	5	Yellow Tomahawk, The	mel-c A
—	6	6	Pushover, The	cri-mel A	—	1	2	Yukon Vengeance	mel AYC



## The Consumers' Observation Post

(Continued from page 4)

GARDENING AND LAWN WORK has its hazards which sometimes are more than blisters, sore muscles, and backache. In a summer issue of the Journal of the American Medical Association, an unusual case of serious illness of histoplasmosis, characterized by aches, pains, and general malaise, was diagnosed as due to inhalation of dust arising in the spreading of infected soil contaminated by chicken manure that contained the fungous infection. The physicians reporting the case suggested that scattering by home gardeners of dry garden soil infected with the pathogenic fungi may be the cause of a number of obscure types of acute febrile and pulmonary diseases and that this source of infection should be watched for.

\* \* \*

NYLON STOCKINGS are currently as sheer as any woman could wish, but they don't wear as well as desired. Unfortunately, at the present time there is no way of achieving both sheerness and durability, or of making the sheer 10- and 12-denier nylons as strong as the 40-denier nylons bought by the armed forces for its women members. It should be noted, however, that women's desire for sheer hose is beginning to have an influence on even the armed services. The Navy, for example, has recently changed its

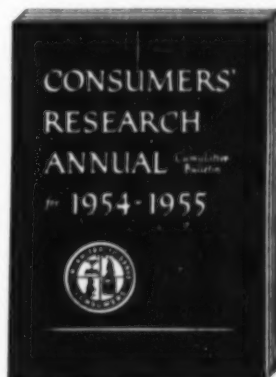
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specification from 40 denier, 45 gauge to 30 denier, 51 gauge. Women who wish long wearing hose may well follow the "Waves" example. Nearly all large manufacturers produce a 30-denier stocking.

\* \* \*

**SUPERHIGHWAYS WERE BUILT** to eliminate traffic problems and driving hazards. They have, however, created hazards of their own, according to Paul F. Griffin, Professor of Geography at Stamford University, writing in the Scientific Monthly. He considers the chief menace to be speed. On the Pennsylvania Turnpike, for example, he reports that with the speed limit of 70 miles per hour there is a death rate of 8 per 100 million vehicle miles; on the New Jersey Turnpike, with the speed limit of 60 miles per hour, a death rate of 6.5; New York State with a legal speed limit of 50 miles per hour on its state highways, a death rate of 6. The second danger of the superhighway, according to Professor Griffin, is high speed hypnosis, a trance-like state, caused by mile after mile of smooth effortless driving. He characterizes other hazards as also a result of high speed which increases the danger of accidents caused by weather, mechanical failures, and unpredictable actions of other drivers.

\* \* \*

**RADIOACTIVE MATERIALS** and Geiger counters are topics of current scientific interest. In fact, they are the symbols of "SCIENCE" at the moment. Of course cosmetic experts are as alert to the possibilities of such devices as any nuclear physicist. They are reported to have just done a job for one well-known cosmetic firm which involved smearing dirt mixed with radioactive materials on people's faces, then cleaning it off with various cold creams, and holding a Geiger counter up to the cleansed faces to see how much soil was left. As might be expected, the cold cream distributed by the firm which hired the chemists showed up much better in removing the artificial soil than the cream of several of its competitors. Only in one case was it found that its superiority was not considered "statistically significant" in relation to the soil removal quality of one of its competitors.

\* \* \*

**DIRECTIONS FOR USE ON LABELS** and instruction booklets are notoriously hard to follow. Quite often, however, it is wise to take the trouble to master the instructions if a product is to be used successfully. In a recent addition to CR's lunchroom, some electrical heating equipment of a new type was labeled with instructions to the installer "we know you're an expert but try doing it our way." This bears out an observation which one of our consultants made last year, "If at first you don't succeed, try reading the directions."

---

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# Phonograph Records

BY WALTER F. GRUENINGER

Please Note: The first symbol applies to quality of interpretation, the second to fidelity of recording.

**Brahms: Concerto for Violin and Orchestra.** Milstein with the Pittsburgh Symphony Orchestra under Steinberg. Capitol P 8271. \$5.70. Milstein's playing of this major concerto is ever so sweet, radiant, and clean (barring a few slides), but a little feminine. The third movement is particularly jolly. It's a distinctive performance and if its lightness doesn't trouble you, it's very good. Excellent playing by the orchestra. **AA A**

**Chabrier: Seven Pieces for Piano & Saint Saens: Five Pieces for Piano.** Ginette Doyen (piano). Westminster WL 5294. \$5.95. The most arresting disk of the month. Chiefly seldom-heard French piano music, but much of it is so artistic, it deserves frequent hearing. Miss Doyen plays these pieces with appropriate vitality and expression. Very well recorded. **AA AA**

**Songs of Stephen Foster.** Roger Wagner Chorale. Capitol P 8267. \$5.70. Generally appropriate arrangements of "My Old Kentucky Home," "Oh Susanna," "Nelly Bly," "Old Black Joe," etc., sung by a mixed chorus without instrumental accompaniment. Precise enunciation, enjoyable quality of choral tone. Clear recording, though the chamber seems small. **AA AA**

**Relax with Victor Herbert.** Al Goodman and His Orchestra. RCA Victor LPM 1023. \$4.19. The old favorites are here: "Gypsy Love Song," "Ah Sweet Mystery of Life," "Kiss in the Dark," "Sweethearts," etc. The modest size orchestra features a choir of violins. Slow, sweet music, fine for dinner, background on other occasions, and for more intensive listening. Close to mike recording. . . Agreeable playing of less familiar Herbert numbers composed for orchestra may be heard on Columbia AL 50—Rochester Pops Orchestra. **AA AA**

**Kodaly: Peacock Variations & Bartok: Suite from the Miraculous Mandarin.** Chicago Symphony Orchestra under Dorati. Mercury MG 50038. \$5.95. Imaginative, colorful Hungarian works calling on the full resources of the modern orchestra. Reasonably phrased, well paced performance. **A A**

**Moussorgsky: Pictures at an Exhibition.** L'Orchestre de la Suisse Romande under Ansermet & **Ravel: La Valse.** Paris Conservatory Orchestra under Ansermet. London LL 956. \$5.95. Peculiarly uneven performance of the famous, colorful *Pictures*, with slow movements dragged, and fast movements frequently rushed. Marvelous recording. But overall, I prefer Ormandy and the Philadelphia on Columbia ML 4700. Ansermet's performance of *La Valse* is less effectively played and recorded than his *Pictures*. **B A**

**Mozart: String Quartets (K589 and K387).** Barylli Quartet. Westminster WL 5265. \$5.95. There's a tinge of sadness in these masterpieces that sets them apart and helps to make them universally loved by chamber music devotees. The performers are technically excellent, but they fall short of the highest rating on the basis of insufficient nuance; wry tone from the first violin. **A A**

**A Paganini Recital by Ruggiero Ricci (violin).** London LL 1005. \$5.95. Only violinists will fully appreciate the amazing skill Ricci exhibits when playing these 8 pieces with which Paganini dazzled his audiences. But others will find the music melodious, showy, full of tricky effects. . . Less dazzling but even more appealing as music is Ricci's record of pieces by **Sarasate: 7 Danzas Espanolas, Zigeunerweisen, Introduction et Tarantelle, etc.** (London LL 962), which is superbly played and recorded. **AA AA**

**Saint Saens: Carnival of the Animals & Ibert: Diversite.** Concert Arts Orchestra under Slatkin. Capitol P 8270. \$5.70. Out of the run and delightful, conceived

in the lighthearted Parisian manner. *Carnival* has never been recorded better. The *Ibert* is noisier and jaunty and fun, too. The performance and recording are all one could ask for. **AA AA**

**Shostakovich: Symphony No. 1.** Symphony Orchestra of Radio Leipzig under Pflüger, and **Symphony No. 9.** Symphony Orchestra of Radio Berlin under Kleinert. Urania URLP 7128. \$5.95. Admirable coupling and easy listening for both works are relatively simple in style and alternately impish and sentimental. No. 9 gets the more dynamic performance. **A A**

**Tartini: Concerto in D Minor & Bach: Concerto in G Minor.** Szegedi (violin) with the Columbia Symphony Orchestra under Szell & **Handel: Sonata No. 4 & Tartini: Sonata in G Major.** Szegedi (violin), Bussotti (piano). Columbia ML 4891. \$5.95. Szegedi commands respect from his colleagues as a musician, but in recent years his tone has been less than polished. He sounds better here than on most records he has made. **A AA**

**Tchaikovsky: Romeo and Juliet, 1812 Overture, Marche Slave, Capriccio Italien.** Vienna State Philharmonia under Perlea. Vox PL 8700. \$5.95. Bonanza for Tchaikovsky fans—four of his most popular short pieces, requiring over an hour to play. The performances are spirited and solid, though I have heard recordings with more attention to detail. Nice "bounce" to the recording chamber, but there's some distortion to the "highs." **A A**

**Verdi: Rigoletto.** Pagliughi, Tagliavini, Taddei, etc., under Questa. 6 sides, Cetra C 1247. \$17.85. The performance does not quite match that in the outstanding RCA Victor Set LM 6101. Pagliughi and Tagliavini reveal strain in the high register, though both measure up to the task in most other respects. Taddei, while appropriately dramatic as Rigoletto, does not match the vocal richness of Warren in Victor. The lesser parts are sung a shade better in the Cetra set. The orchestra is often too far in the background. The direction is lively, firm, commendable. A good set, but not the best. **A A**

**Ballads of Long Ago.** Marais and Miranda (singers) with the Pardo Ancient Instrument Ensemble. Columbia ML 4894. \$5.95. Marais and Miranda sing simply and clearly, but some of these fine ballads could stand more cultivated artistry. Unusual, excellent accompaniment of ancient instruments. Included are "Chow Willy," "The Laird of Cockpen," "In Egypt," "The Silver Fleet," etc. **A AA**

**Echoes of Latin America.** George Feyer (piano) with rhythm accompaniment. Vox VX 670. \$3.15. Another in the delightful series by Feyer—half an hour of gay, soft dinner or background music including "Siboney," "La Cumparsita," "Tico Tico," "Brazil," and others. . . The same combination playing *Echoes of Broadway* with less ingenuity may be heard on Vox VX 650. **AA A**

**Echoes of Spain.** Hollywood Bowl Symphony Orchestra under Dragon. Capitol P 8275. \$5.70. Of its kind, an outstanding disk. . . 8 short, sure fire pieces including "Estrellita," "Jalousie," "Espana," "Ritual Fire Dance." The Hollywood Bowl Symphony has never sounded as good on records. . . Better performed than this group's *Starlight Concert* on Capitol P 8276. **AA AA**

**Martha Schlamme Sings Songs of Many Lands (folk-singer).** Vanguard VRS 7012. \$4. Miss Schlamme is a concert folk artist who presents here, with piano accompaniment, 12 songs in 6 languages. They stem from Israel, Austria, Norway, Russia, etc. The voice is unusually good for folksinging and the enunciation is well nigh perfect. **AA AA**

# Consumers' Research

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### OUR READERS WRITE:

We always read every issue carefully. The articles are interesting even though we may not be in the market at the moment for the particular item.

Engineer, Mexico, Mo.

My wife and I refer to CR Bulletin so frequently that although it is available at the library, we have decided to subscribe in order that we might have our own issues and back issues. We have been more than pleased with your unbiased reporting. I am particularly impressed by data tabulated so that the reader can himself evaluate the capabilities of items like automatic washers, refrigerators, and other appliances. CR Bulletin fills a very definite need of the confused consumer.

Student, Ames, Iowa

I am a subscriber to your magazine. We sure wait for it each month. It has helped us in many ways. I can't put in value how much we depend on it especially in these days of all this high pressure advertising and selling.

Municipal Employee, Albert Lea, Minn.

My wife and I are on our way to the U. S. after 3 years in Chile. We made up our shopping list from the "recommended" columns of Consumers' Research. We congratulate you on doing an excellent job.

Export Executive, New York City

We have been saved making a serious mistake and we are deeply grateful to you and to your Consumers' Research, Inc. Bargains that once would have intrigued us, no longer get a second glance. It is wonderful what you are doing for buyers and for manufacturers, too, that need to manufacture better and better merchandise.

Farmer, Thompson Falls, Montana

I'd like to tell you how well pleased I am with your publication. I feel that it renders an invaluable service to every thrifty consumer.

Rancher, Redlands, Calif.